

## **ASSESSMENT OF THE QUALITY OF SLEEP OF MEDICAL INTERNS**

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**Abstract:** Sleep disorders are common among medical students and can impact daily academic activities. Study design: cross-sectional, exploratory, qualitative. Objective and Method: this study aimed to evaluate the sleep quality of 100 medical interns at Tiradentes and Federal Universities of Sergipe. The Fletcher and Lockett questionnaire was used. Results: on average, inmates take 44.52 minutes to fall asleep. Most respondents (42.4%) reported tiredness after a night's sleep. Most deny shortness of breath after exertion, however a portion of inmates reported hearing from other people that they are more irritated or depressed (23.3%). Conclusion: medical interns showed signs of sleep deprivation, indicating the need for preventive actions in the medical field.

**Keywords:** Clinical stage, sleep-wake disorders, sleep.

## INTRODUCTION

Sleep is not just a temporary shutdown of perception and interaction with the surrounding environment, but it is also a cyclical physiological state necessary for the maintenance of physical and intellectual health in human beings<sup>1</sup>. Under normal conditions, during a 24-hour period, the sleep-wake cycle is responsible for memory consolidation, thermoregulation and, mainly, restoration of energy metabolism. For this reason, when there is a reduction in the quality and hours of sleep, there is damage to the most varied organic functions<sup>2</sup>.

The internship is the last two years of medical graduation, in which students begin to detach from the university and routinely experience medical practice. The months arriving early at dawn and leaving late at dusk. In addition to the long hours on duty, the student still needs to separate hours of his night to review essential topics of the curriculum that he does not remember so hard. As a result

of the new stage in the course, most students acquire sleep disorders that affect their daily routine<sup>3</sup>.

With few hours or inferior quality of sleep, inmates are affected by the so-called daytime sleepiness, which is characterized by fatigue and loss of concentration during the day<sup>2</sup>. Due to the fact that the intern is directly, every day, in contact with patients, it is essential that the effects of daytime drowsiness do not occur so that there are no losses, mainly, in patient care. The chance of errors occurring is exponentially greater when the internal is under low concentration.

With the aim of knowing the sleep quality of medical interns in the state of Sergipe, identifying any sleep disorders, the internationally recognized Fletcher and Lockett questionnaire was used.

Through this evaluation, it was possible to have an idea of how the sleep quality of inmates in the state of Sergipe is, identifying factors that influence and that can be circumvented. Especially because they are still academics, there is the possibility of improvement in sleeping hours and, with that, increased concentration during the day and, mainly, during customer service. It is in this aspect that lies the relevance of this study.

## METHODS

### STUDY DESIGN

This was a cross-sectional, qualitative, exploratory and descriptive study with a non-probabilistic sample, developed through a questionnaire, carried out throughout the semester. Participants were students of the Medicine course at ``Universidade Tiradentes`` and ``Universidade Federal de Sergipe``.

### ETHICAL CONSIDERATIONS

The study project was prepared according to the ethical standards established by the

National Health Council (CNS Resolutions 510/2016 and 466/2012) and was initially submitted to the UNIT Graduation Commission for appreciation, being approved with opinion number:2,140,470. **The participation of students in the study was voluntary. Before applying the instruments, they were informed about the nature of the research and its methods and, after any clarification of doubts from the participants, before applying the instrument, they were asked to sign the Free and Clarified Term of Clarification**

## PARTICIPANTS

The sample consisted of 100 students enrolled at Universidade Tiradentes and Universidade Federal de Sergipe. Those academics who were present in the classroom at the time of application of the questionnaire participated in the study.

## INSTRUMENTS

Each individual was assessed for sleep quality and excessive daytime sleepiness using the Fletcher and Lockett<sup>4</sup> questionnaire. It is a questionnaire with 39 items, divided into four sections: sleep quality, daytime sleepiness, snoring, apnea and other complaints. The average time to complete the questionnaire ranged from 5 to 10 minutes approximately.

## DATA ANALYSIS

Data were described using simple frequency and percentage when categorical, using mean, standard deviation, median, minimum and maximum when continuous. The associations between categorical variables were evaluated using Pearson's chi-square test and a perceptual map estimated using analysis of **multiple matching. The significance level adopted was 5% and the software used was R Core Team 2018.**

## RESULTS

In the researched group, a predominance of women (69.4%) and mean age of 23.8 years old was identified.

Table 1 shows that 25.4% of inmates often take a long time to fall asleep. Of this same group, 42.4% claim to occasionally feel tired after a night's sleep. In the general panorama, the university students interviewed take an average of 44.52 minutes (SD±39.24 minutes) to start sleeping after going to bed. This variable showed an asymmetrical distribution.

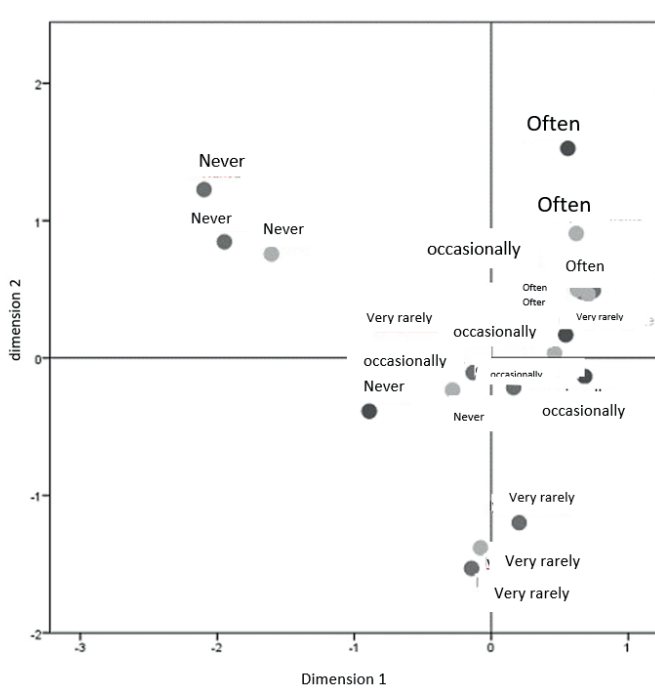
With regard to daytime sleepiness, it is observed that the same group that often reports feeling tired after a night's sleep often reports dozing off watching television or at the movies, dozing off reading newspapers or magazines, dozing in public places and dozing while doing their work usual (Figure 2).

It is important to emphasize that the majority of the interviewed sample (98%) was classified in the worst range for the habitual sleep efficiency component, that is, less than 65%. None of the 100 students evaluated showed the best range of habitual sleep efficiency equivalent to 85%. Most respondents (41.1%) retire daily at midnight. Then there are those who do it between 11:00 pm and 11:30 pm (30.4%); and before 22:00 (10.7%).

The largest proportion (81.1%) stated that they had never been in a car accident and left the road because of drowsiness, as well as never having become extremely drowsy while driving or dozing at traffic lights (Table III).

A good proportion of the sample (96.7%) stated that they had not felt chest pain recently, as well as not having frequent shortness of breath when making efforts (91.6%), but it is worth noting that 23.3% of respondents reported hearing from other people who are more irritable, explosive or depressed.

	n	%
Is there a delay in getting to sleep?		
Never	10	16,9
Very rarely	21	35,6
Occasionally	13	22
Often	15	25,4
Total	59	100
Do you feel tired after a night of sleep?		
Never	5	8,5
Very rarely	9	15,3
Occasionally	25	42,4
Often	20	33,9
Total	59	100



- Feeling tired after a night's sleep?
- Do you nap watching TV or not movies?
- Do you nap Reading the newspaper, books or magazines?
- Have you ever napped in public places?
- Have you ever dozed off doing your usual work?

Do you get extremely drowsy while driving or do you nap at traffic lights?

	Never	Very rarely	Occasionally	Often	p-value
Have you ever been in a car accident and driven off the road because you were sleepy?					
Never	32(82,1)	11(73,3)	2(100)	2(66,7)	0,464
Very rarely	3(7,7)	3(20)	0(0)	0(0)	
Occasionally	2(5,1)	0(0)	0(0)	1(33,3)	
Not applicable	2(5,1)	1(6,7)	0(0)	0(0)	

Subtitle: N-absolute frequency; %-percentage frequency; Chi-square test estimated via Monte-Carlo;

Have other people told you sometimes very angry, explosive, or depressed?		
Never	18	18,3
Very rarely	18	30
Occasionally	15	25
Often	14	23,3
Not applicable	2	3,3
Total	60	100
You have problems finding one?		
Never	32	53,3
Very rarely	13	21,7
Occasionally	8	13,3
Often	4	6,7
Not applicable	3	5
Total	60	100
Do you get up at night to urinate?		
Never	15	25,4
Very rarely	27	45,8
Occasionally	18	30,6
Often	5	8,5
Not applicable	1	1,7
Total	59	100
Do you get shortness of breath you exert yourself?		
Never	20	33,3
Very rarely	23	38,3
Occasionally	12	20
Often	4	6,7
Not applicable	1	1,7
Total	60	100
Do you have chest pain?		
Never	40	66,7
Very rarely	17	28,3
Occasionally	1	1,7
Often	1	1,7
Not applicable	1	1,7
Total	60	100

## DISCUSSION

Sleep is a special physiological state that occurs cyclically in living beings of the animal kingdom<sup>5</sup>. In humans, it is divided into 5 fundamental stages, differing according to the electroencephalogram (EEG) pattern and the presence or absence of rapid eye movements, in addition to changes in several other physiological variables, such as muscle tone and pattern. cardiorespiratory<sup>1</sup>.

The sample of students analyzed showed an average of 44.52 minutes to fall asleep and slept an average of 6 hours a night, which is considered lower than the average of the adult population, whose normal would be between 7 to 8 hours a night. In a study carried out among medical students at ``Universidade Federal de Goiás``, it was observed that most students slept, on average, 6.13 hours per night. A similar result was found at ``Universidade Federal do Acre``, with an average of 6 to 7 hours of sleep per night<sup>7</sup>.

The assessment of sleep quality with a focus on identifying the risk of developing sleep disorders has been gaining ground worldwide, not only because of the possible damage to interns in their academic performance and personal life, but also to the patients who will be treated by these professionals<sup>8</sup>.

As for sleep efficiency, it was shown that 20% of students did not have restorative sleep, complaining of waking up still tired after a night's sleep. Complaints of insomnia, hypersomnia or non-restorative sleep are called dyssomnias, occurring in about one third of the general population. In addition to constituting risk factors for type II diabetes mellitus, in addition to leading to impairment of daytime performance in several cognitive domains and propensity to accidents<sup>9</sup>.

The lifestyle of modern civilization, which includes tension, stress, loneliness and shift work, and susceptibility to stress-related disorders are important risk factors for sleep

disorders<sup>10</sup>.

Compared to the general population, no difference was observed in relation to sleep duration, however it is evident that sleep quality is not adequate. Other studies consulted with the same theme found that most respondents were dissatisfied with the quality of their sleep<sup>4 7</sup>.

Most inmates had difficulty self-perceiving their sleep, especially with regard to associating symptoms such as snoring and irritability as part of the phenomenon of poor sleep quality<sup>11</sup>. Faced with this circumstance, the look of family members and partners serve as an aid in identifying any sleep disorders.

In a study carried out in China, students' concerns about sleep, stress, relationships with colleagues, concerns about exams, the bedroom environment and late bedtime were related to poorer sleep quality<sup>6</sup>.

An important fact is that poor sleep quality, when persistent and uncorrected, not only influences the performance of usual academic activities, but also the academic's leisure<sup>12</sup>. A fact that we observed during the study with a relevant percentage of inmates who nap in the cinema and in public places.

Although there is the possibility of academic and personal life damage, investigation and correction of sleep quality are not seen as pathological, enough<sup>13</sup>. For this reason, interns remain with poor quality sleep, graduate and become physicians with chronic sleep disorders.

Among the limitations of this study, it must be noted that there was no analysis of the variables potentially influencing the appearance of sleep disorders, such as personal problems, diet and physical activity. In addition to the aforementioned, there was also no specification regarding the rotation in which the inmates were at the time of collection. After all, different rotations have different hourly and emotional loads. Despite

these limitations, it is inferred that this research showed important aspects of sleep assessment in this group in particular.

## CONCLUSION

It is concluded that medical interns have a sleep quality that is far from what is expected,

associated with a low self-perception of their sleep disorders. The influence of this low quality of sleep on the student's academic performance and personal life can also be seen. Given the knowledge of the current situation, it is necessary to invest in health promotion measures for this specific group.

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