

Sleep quality and factors that disturb it in university students

Qualidade do sono e fatores que o perturbam em universitários

Calidad del sueño y factores que la perturban en universitarios

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ABSTRACT

Introduction: Sleep deprivation is the situation of sleep incapacity. There are two classifications: chronic and acute. When there is not proper rest, the patient can get drowsiness, fatigue, weight loss and negative problems in cognitive functions. **Objective:** To analyze the quality of sleep and factors that disturb it in university nursing students, in the period September-December 2022. **Methodology:** Quantitative-descriptive and cross-sectional approach. 121 participants were approached using questionnaires (Sleep disturbing factors & Pittsburg sleep quality index) It was validated with a Cronbach's alpha of 0.75 and 0.81, which guarantees the reliability of the instrument. **Results:** The mean score of the participants of the Pittsburgh quality index is 7 which tells us that the students need medical attention. **Conclusions:** Despite not presenting several sleep disturbances, university students have poor sleep quality, and they are known as poor sleepers.

Keywords: Quality, sleep, students, factors, disturbances.

RESUMO

Introdução: A privação do sono é a situação de incapacidade de sono. Existem duas classificações: crônica e aguda. Quando há falta de descanso adequado, o paciente pode experimentar sonolência, fadiga, perda de peso e problemas negativos nas funções cognitivas. **Objetivo:** Analisar a qualidade do sono e os fatores que o perturbam nos estudantes universitários de enfermagem no período de Setembro-Dezembro de 2022. **Metodologia:** Abordagem quantitativo-descritiva e transversal. 121 participantes foram abordados utilizando questionários (Fatores que perturbam o sono e índice de qualidade do sono de Pittsburg). Foi validado com um alfa de Cronbach de 0,75 e 0,81, o que garante a fiabilidade do instrumento. **Resultados:** A pontuação média dos participantes do índice de qualidade de Pittsburg é 7, o que nos diz que os estudantes precisam de cuidados médicos.

Palabras-chave: Qualidade, sono, estudantes, fatores, distúrbios.

RESUMEN

Introducción: La privación del sueño es la situación de incapacidad para dormir. Existen dos clasificaciones: crónica y aguda. Cuando no hay un descanso adecuado, el paciente puede presentar somnolencia, fatiga, pérdida de peso y problemas negativos en las funciones cognitivas. **Objetivo:** Analizar la calidad del sueño y los factores que lo perturban en estudiantes universitarios de enfermería, en el periodo septiembre-diciembre de 2022. **Metodología:** Enfoque cuantitativo-descriptivo y transversal. Se abordaron 121 participantes mediante cuestionarios (Factores perturbadores del sueño e índice de calidad del sueño de Pittsburg) Se validó con un alfa de Cronbach de 0,75 y 0,81, lo que garantiza la fiabilidad del instrumento. **Resultados:** La puntuación media de los participantes del índice de calidad de Pittsburg es de 7 lo que nos indica que los estudiantes necesitan atención médica. **Conclusiones:** A pesar de no presentar varias alteraciones del sueño, los estudiantes universitarios tienen una mala calidad del sueño, y se les conoce como malos durmientes.

Palavras-chave: calidad, sueño, estudiantes, factores, trastornos.

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INTRODUCTION

Sleep deprivation is the situation of sleep inability. There are two classifications: chronic and acute. When there is no proper rest, the patient may develop drowsiness, fatigue, weight loss and negative problems in cognitive functions. Consequently, students may develop cognitive and psychosocial problems that would affect their academic performance. (Achury & Achury, 2018).

Therefore, the quality of sleep is an indicator of the health status of the individual. It is not only about sleeping well, but it also includes that when the individual wakes up, he can carry out their activities at an adequate level (De la Potilla, Dussan, Montoya, Taborda, & Nieto, 2018). Consequently, several factors affect the quality of the student's sleep and, thanks to this, their quality of academic performance as well. Studies have shown that sleep deprivation is one of the problems that affect students mostly. Suardiaz states that university students are the population that has the lowest quality of sleep due to academic stress and extracurricular effort such as working, so they can support themselves or their family. (Suardiaz, Morante, Ortega, Ruiz, & Martín, 2020).

Sleep deficiency encompasses a number of problems towards university students. It is evident from poor academic and work performance to mental, physical and psychological health problems. It involves a greater number of accidents in the population (García & Navarro, 2018). The biggest health problem regarding sleep has been insomnia, which is characterized as a lack of sleep for a long time (Juday, et al., 2020).

There are three types of fundamental treatments for insomnia that are pharmacological, psychological and non-pharmacological and, finally, alternative therapies. However, the latter are not recommended due to the lack of scientific evidence on their effectiveness (Juday, et al., 2020).

As a result of this problem, a good quality of life cannot be obtained, since it is a determining factor of health. Sleeping well does not only make the individual feel good, but also allows them to carry out their daily activities without any problem and with full attention (Sierra, Jiménez Navarro, & Martín Ortiz, 2020).

The general objective of this work is to analyze the quality of sleep and factors that disturb it in university students of the nursing career. This deprivation can lead to serious health problems that affect the academic and social performance of the student.

In relation to Latin America, it is shown that university students with poor sleep quality are approximately 76.4% on average, which reveals that most of them have a serious problem with their sleep (Flores, et al., 2021). These data have concerned researchers that, in Colombia, efforts have been made to correct the alterations found in the functioning of the systems and to try to achieve their recovery. It has been recommended that students go to a doctor specialized in these problems and get effective treatment to help them with their quality of sleep and therefore their quality of life (Soniadela, Dussán, & Montoya, 2017).

After deep reference search regarding Ecuador, it was possible to find scientific evidence that accredits the information previously exposed. Quality of sleep in university students has a large percentage of daytime sleepiness, which results in a high rate of stress, anxiety and memory disorders. An average score of 7.2 was obtained in the Pittsburgh sleep quality index (Zúñiga, Coronel, Naranjo, & Vaca, 2021).

METHODS

The following research aims to collect data on the experiences of university students regarding their quality of sleep and the factors that have disturbed it. So this research has a quantitative-descriptive cross-sectional approach (Cruz, Olivares, & González, 2014).

This study was carried out in the nursing career at the Technical University of Ambato in the period of September-December 2022. The faculty has an approach to train competent and leading professionals in nursing. So they become capable of critical and humanistic thinking (Technical University of Ambato, 2019).

The population studied was made up of a total of 1089 students and a population sample size of 121 people was chosen to be surveyed. For this reason a systematic random sampling was chosen. When carrying out our sample, the formula $K=N/n$ was used (Gallego, 2004).

The data collection technique was an interview that contains a questionnaire created by Vera Catalán (Questionnaire on sleep quality in hospitalized patients). Some questions have been changed for academic purposes (Vera Catalán, 2017).

Table 1. Questions considered for the survey

QUIZ QUESTIONS	QUESTIONS CHANGED
Do you think your room is noisy?	Do you consider your classroom noisy?
Do you consider that the health professionals allow time so that you feel comfortable?	Do you consider that the rest time that you give to your studies is comfortable?
If you perceived a lack of information about your treatment, how much would it bother you?	If you did not receive information about the activities you should do, how much would it bother you?

Source: own elaboration with research data

In addition, the Pittsburgh quality index questionnaire was used with a Cronbach quality index of 0.81. It focuses on 19 questions that are divided into 7 components. (Carralero, Hoyos, Sandoval, & López, 2013).

Table 2. Components and analytical dimensions

Component	Analysis Describes:
Subjective sleep quality	How "well" or "badly" the participants sleep according to the point of view of each one.
Sleep latency	Time respondents take to fall asleep after trying to do so.
Sleep duration	Hours that you remain asleep.
Usual sleep efficiency	Percentage in which the respondent sleeps in proportion to the time he spends lying in his bed
Sleep disturbances	Symptoms that the respondent presents, such as insomnia and apnea
Use of hypnotic medication	Needs to take medication to get to sleep
Daytime dysfunction	Perception of sleepiness during the day

Source: own elaboration with research data

Finally, the data will be processed by transferring the responses to an Excel workbook. In the course of this research, strict confidentiality of the identity of the sample studied will be kept and also the use of informed consent based on what Helsinki declared. (Carreno Duenas, 2016).

Table 3 Sample size

Men	53
Women	68
Total Sample	121

Source: own elaboration with research data

After having surveyed the sample, the following results were obtained:

RESULTS

Table 4 Factors that disturb sleep in university students.

ITEMS	Do you find your classroom noisy?		Do you consider that the rest time that you give to your studies is comfortable...		If you did not receive information about the activities you should do, how much would it bother you?	
	fi	%	Fi	%	Fi	%
Nothing	18	14.90%	6	5%	2	1.70%
Bit	31	25.60%	21	17.40%	12	9.90%
Regular	38	31.40%	47	38.80%	28	23.10%
Something	16	13.20%	41	33.90%	3.4	28.10%
A lot	18	14.9%	6	5.00%	4.5	37%
TOTAL	121	100%	121	100%	121	100%

Note: Prepared by author with survey data

Table 5 Pittsburgh Sleep Quality Index

	Average score	TOTAL
Subjective sleep quality	1.28	1
Sleep latency	23	1
Sleep duration	1.97	2
Usual Sleep Efficiency	77.91%	1
Sleep disturbances	8.23	1
Use of hypnotic medication	0.2	0
Daytime dysfunction	2.56	1
TOTAL, PSYC		7

Note: Prepared by author, average score results of data obtained in the survey of 121 students.

In subjective sleep quality (component 1) several students consider that their sleep quality is good (77). However, the minority consider that their sleep quality is quite bad (3). Thus, an average score of 1.28 was detected. In other words, the students consider their quality of sleep good since there are no sleep factors that disturb it. On the other hand, in sleep latency (component 2) the students revealed that at the moment of falling asleep it does not take more than 15 minutes (28). Another group takes more than 60 minutes to fall asleep (12). In addition, at least once in the last week (32) they failed to fall asleep. It gives a mean of 2.30 with a component score of 1.

In the same way, in the duration of sleep (component 3) it can be seen that some respondents sleep >7 hours (8) while another group of students only sleeps 5-6 hours (65). Thus it gives an average of 1.97. This can be attributed to the time they dedicate to their studies, which they consider comfortable (41), and their quality of sleep is not affected. Equally important, as for component 4, which refers to habitual sleep efficiency, we can observe that the average number of hours of sleep is 5.77. And hours spent in bed is 7.43, which gives us a value of 73.22%. In other words, the score is 1, which resembles a quality of sleep without disturbances.

In relation to sleep disturbances (component 5), in most of the items it is possible to observe that at least once a week they have some problem when it comes to falling asleep, contrary to the minority in all the items. It points out that their inconvenience when it comes to falling asleep is >3 times a week, giving a total average of the component of 8.23. It results in a score of 1. In other words, the quality of sleep is good since they do not present many disturbances within the classroom and there are no factors that affect it.

Likewise, it can be evidenced in (component 6) about the use of hypnotic medication that at least once a week, students consume this type of medication (11). 3 individuals consume it at least 3 times a week and sometimes more. It gives an average score of 0.20, which can be attributed to the quality of sleep being affected by the consumption of this type of substance. Finally, nocturnal dysfunction (component 7) reveals that at least once a week approximately half of the respondents have felt mood problems. They have affected their daily activities, while the other half have had it from 3 or more times a week. It may be due to the inconvenience caused by not being informed of the activities scheduled at the university (45).

DISCUSSION

During the reference review, several objectives were found to see which path the research was taking. This path leads

us to the main objective, which is to know the quality of sleep of the surveyed university students. Moreover, the main specific objective is to know the validity and reliability of the Pittsburgh sleep quality index. As can be seen in the results obtained from the research, most of the students surveyed obtained an average score of 7. This indicates that they have problems falling asleep, which the Pittsburgh sleep quality index classifies them as poor sleepers. Therefore, this leads to the need for medical attention.

This result is not different from that obtained in other studies regarding the quality of sleep in university students. They show us that the low quality of sleep stems directly from the academic performance of each student. The information released to date is confirmed by several authors such as Portillo, Dussan & Montoya (2017), Buttazoni & Casadey (2018), Corredor & Polanía (2020) and others.

Several authors, such as Corredor & Polanía, agree that university students put aside good quality sleep in order to have better academic performance and aim at covering the needs they have to improve their quality of life in the future because job demands increase. (Corredor & Polanía, 2020). One of the most relevant factors found in several articles is the economic position that each student has, and also the use of cigarettes in excessive amounts. This affection is related to the amount of time that students dedicate to their study hours. And, as in the studies mentioned, they are students of the health area. (Zapata & Betancourt, 2021) (Ferreira, Carneiro, Teles, & Santos, 2020). This is why the inefficient quality of sleep agrees with studies carried out in Colombia. These problems can significantly affect the quality of life, mental and social health, and cognitive and academic performance.

It can be observed that adolescents and young adults are the population with the highest risk of showing sleep problems that early in life and it is making the performance of daily activities not adequate. As Cardinali explains well, in our society an "inefficient sleep epidemic" is being experienced. This happens because the number of poor sleepers is increasing more and more, due to their serious reduction in hours of sleep in order to meet academic and social demands. It reaches the point that students self-medicate and consume caffeine so that they fill their sleep needs. (Cardinali, 2007).

Lack of sleep encompasses numerous consequences in university students, which can manifest from a decrease in both academic and work performance to causing an increase in the number of accidents and a greater tendency to suffer from diseases (García & Navarro, 2018). One of the most predisposing risk factors in the appearance of mood disorders, anxiety, and major depression is sustained insomnia. It is characterized by having problems falling asleep for an extended period of time (Juday, et al., 2020). Likewise, insomnia, according to bibliographies, has been associated with both medical and psychiatric comorbidities such as arthritis, gastroesophageal reflux, obstructive pulmonary disease, congestive heart failure, diabetes, prostate problems, etc. (García & Navarro, 2018).

There are three types of fundamental treatments for insomnia that are pharmacological, psychological and non-pharmacological and, finally, alternative therapies. However, the latter are not recommended due to the lack of scientific evidence on their effectiveness (García & Navarro, 2018). One of the most important health problems in Western societies are sleep disorders. In order to have a good quality of life, it is essential that there is a good quality of sleep, since it is a determining factor of health. It influences on the possibility of contracting comorbidities, since sleeping well at night will not only provide us with a good rest, but also help to have an adequate level of attention during the day while performing various tasks (Sierra, Jiménez Navarro, & Martín Ortiz, 2020).

University students have felt negative consequences in cognitive areas due to poor quality sleep. Scarce bibliographic evidence exposes the poor quality of sleep suffered by medical students in Ecuador. These are supported by surveys where the percentages of sleepiness are high, resulting in a greater risk of suffering stress, anxiety and memory disorders. In the population studied, 7.2 was obtained in PSQI, which shows the prevalence of poor sleep quality. It contrasts with the information previously exposed by other bibliographies, as well as with the results of this investigation. Sleep disturbances have a strong impact, causing psychopathological disorders.

CONCLUSIONS

When carrying out an exhaustive analysis on the subject, it is concluded that the students surveyed, despite not presenting many sleep disturbances, have a poor quality of sleep. They are known as bad sleepers. Therefore, they need medical attention so that the quality of their sleep improves and that there is no impact on their mental, physical and social health. In addition, after reviewing several bibliographical sources, it was possible to observe that the Pittsburgh sleep quality index is a document that contributes greatly with various past, present, and future research projects.

Among the limitations of this research was the reluctance of the students to answer the questions due to lack of interest. For this reason some information gaps were evidenced by the respondents, plus the lack of information on the topic that the country has. Even after carrying out a meticulous search, articles regarding this topic were not found. However, there

are a few thesis projects that have not been published. For this reason, it is highly recommended to conduct research on this topic.

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