

Stress, quality of sleep and quality of life in health students

Estresse, qualidade do sono e qualidade de vida em acadêmicos da área de saúde

Estrés, calidad de sueño y calidad de vida en estudiantes de salud

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REVISA

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RESUMO

Objetivo: Analisar o estresse acadêmico, a qualidade do sono e a qualidade de vida de estudantes da área de saúde. **Método:** Trata-se de um quantitativo, transversal realizado com 34 discentes de da área de saúde de uma faculdade privada de Goiás, via google forms, de novembro a dezembro de 2021 por meio de Formulário para caracterização sociodemográfica e acadêmica e; Instrumento para Avaliação do Estresse em Estudantes de Enfermagem, Índice de Qualidade de Sono de Pittsburgh; e Instrumento de Avaliação de Qualidade de Vida. A análise ocorreu no Statistical Package for Social Sciences (SPSS), versão 20.0. **Resultados:** Verificou-se predomínio alto nível de estresse geral (52,9%), alto estresse nas atividades teóricas (23,5%), muito alto estresse na formação profissional (20,6%) e médio estresse na realização de atividades práticas (20%). Os discentes apresentaram baixa qualidade do sono (79,4%) e moderada (41,2%) e baixa qualidade de vida (35,3%). **Conclusão:** o ambiente acadêmico e suas demandas são percebidos como estressores pelos discentes, principalmente quanto às atividades teóricas, às práticas clínicas e a formação profissional, com impacto negativo à sua qualidade do sono e qualidade de vida.

Descritores: Estresse Psicológico; Estudantes; Qualidade de Vida.

ABSTRACT

Objective: To analyze the academic stress, sleep quality and quality of life of health students. **Method:** This is a quantitative, cross-sectional study with 34 students from health courses from a private college in Goiás, via google forms, from November to December 2021 through a form for sociodemographic and academic characterization and; Instrument for Stress Assessment in Nursing Students, Pittsburgh Sleep Quality Index; and Quality of Life Assessment Instrument. The analysis took place in the Statistical Package for Social Sciences (SPSS), version 20.0. **Results:** There was a predominance of high level of general stress (52.9%), high stress in theoretical activities (23.5%), very high stress in professional education (20.6%) and medium stress in performing practical activities (20%). The students presented low sleep quality (79.4%) and moderate (41.2%) and low quality of life (35.3%). **Conclusion:** the academic environment and its demands are perceived as stressors by students, especially regarding theoretical activities, clinical practices and professional training, with a negative impact on their quality of sleep and quality of life.

Descriptors: Psychological Stress; Students; Quality of Life.

RESUMEN

Objetivo: Analizar el estrés académico, la calidad del sueño y la calidad de vida de los estudiantes de salud. **Método:** Se trata de un estudio cuantitativo, transversal con 34 estudiantes del campo de la salud de un colegio privado de Goiás, vía formularios google, de noviembre a diciembre de 2021 a través de un formulario de caracterización sociodemográfica y académica y; Instrumento para la Evaluación del Estrés en Estudiantes de Enfermería, Pittsburgh Sleep Quality Index; e Instrumento de Evaluación de la Calidad de Vida. El análisis tuvo lugar en el Statistical Package for Social Sciences (SPSS), versión 20.0. **Resultados:** Predominó el alto nivel de estrés general (52,9%), el alto estrés en las actividades teóricas (23,5%), el estrés muy alto en la educación profesional (20,6%) y el estrés medio en la realización de actividades prácticas (20%). Los estudiantes presentaron baja calidad de sueño (79,4%) y moderada (41,2%) y baja calidad de vida (35,3%). **Conclusión:** el entorno académico y sus demandas son percibidos como factores estresantes por los estudiantes, especialmente en lo que respecta a las actividades teóricas, las prácticas clínicas y la formación profesional, con un impacto negativo en su calidad de sueño y calidad de vida.

Descriptores: Estrés Psicológico; Estudiantes; Calidad de vida.

ORIGINAL

Introduction

Academic life is somewhat challenging in itself. In addition to being a new stage of life totally different from the school phase, it requires a remarkable physical and mental effort in view of the new level of education, changes in responsibilities and academic requirements. For health students, it becomes more complex because of the responsibility involved in human care.¹⁻²

Thus, the university routine is usually stressful and exhausting by academic demands, such as: work, tests, seminars, internships, reports, extension projects, and others. All these obligations require intense diligence of the student to acquire the maximum knowledge to apply in their respective area of activity and not to make crucial mistakes the patient's life that can lead to irreversible situations or even death. In view of these aspects, it is possible for the student to evaluate academic situations as stressful throughout the course.³

In this context, stress is defined, starting from the interactionist model, as any stimulus that demands from the external or internal environment and that taxor exceeds the sources of individual adaptation or social system.⁴ Studies on academic stress in the health area point to the student's susceptibility to return mental and physical health changes, such as: depression, anxiety, stress, fear, insecurity, changes in sleep pattern and quality, self-exclusion from their social and family cycle, among others. The result is perceived throughout the graduation due to social and family leave, as well as changes in routine and a fall in income and participation of students in classes, which directly implies student learning.¹⁻³

Sleep quality among students is very important because sleep influences every performance when you are on waking. When you have a complete night's sleep in which you can sleep REM, the whole body resets the energies of daily wear, our central nervous system goes into total relaxation, causing decreased body temperature, the production and release of hormones and the fixation of information and memories acquired throughout the day, which is important to the intellect and humor development of the human being. Changing sleep standards and quality lead to harm, such as: lower concentration capacity, difficulties in performing tasks and planning them, with an impact on the student's quality of life.⁵

The quality of life of university students in the health area is currently related to self-esteem, conduct capacity, economic situation, integral health and emotional status. The sum of the various factors, such as the form of transport used up to the HEI, the study shift (Morning or Night), leisure time in family and friends environment, the workload studied during the semester, financial difficulties and financial conditions, can impact the student's quality of life, both in environmental areas, psychological and social relationship.

Based on the above, it is verified that the student of the health area lives an academic reality that can lead to stress, with impact on quality of sleep and quality of life.⁶⁻⁷

In this sense, the aim of this study was to analyze the stress, quality of sleep and quality of life of health students throughout the course.

Method

This is a quantitative, cross-sectional and descriptive study with 34 students from health courses of a private college in the state of Goiás. Students regularly enrolled in all stages of undergraduate courses belonging to the health area (nursing courses, pharmacy and physiotherapy) of all institutions and over 18 years of age were included. Those who participated in the research as data collection assistants were excluded; and that, during the data collection period, they were in exchange.

Data were collected from November to December 2021, via google forms, through the following instruments: Form for sociodemographic and academic characterization; Instrument for Stress Assessment in Nursing Students (ESA), Pittsburgh Sleep Quality Index (IQSP) and Quality of Life Assessment Instrument (WHOQOL-Bref). After obtaining the e-mail addresses of the students enrolled in the health courses from the 1st to the 8th semesters, the Informed Consent was sent and invited to the students for the research. After the acceptance and online signature of the TCLE, an e-mail was sent with the link to access the data collection protocol, with a period of ten days of completion of the same.

The Form for characterization included the following sociodemographic variables: date of birth, sex, children, marital status, with whom he/she resides, performing leisure activities, sports, sports, income sources, financial dependent, sufficiency of monthly income for maintenance, use of drug or substance (tea, coffee, energy, etc.) to inhibit sleep and to be able to sleep; smoking and alcohol consumption; and academic: time spent to reach HEI, means of transportation, workload in the current semester, performing extracurricular activities, work activity, professional experience in the health area, satisfaction with the course and interest in giving up the course.

The Instrument for Stress Assessment in Nursing Students (ESA) was proposed by Costa and Polak in 2009² and consists of 30 items grouped into six domains: Performance of practical activities (Items 4,5,7,9,12 and 21); Professional communication (Items 6,8,16 and 20); Time management (Items 3,18,23, 26 and 30); Environment (Items 11,22,24 and 29); Vocational training (Items 1,15,17,19,25 and 27); Theoretical activity (Items 2,10,13,14 and 28). The items are presented in a four-point likert scale in which: zero - "I do not experience the situation"; one- "I don't feel stressed about the situation"; two - "I feel little stressed about the situation"; and three- "I feel very stressed about the situation". To identify the stress intensity by ESA factor, risk quartiles were used, as shown in Figure 3.

The Pittsburgh Sleep Quality Index (IQSP) was validated in Brazil by Bertolazi⁸ and applied to Brazilian university students.⁹ In this instrument there are ten questions: question one to four- open; and five to 10- semi-open. These questions are distributed in seven components, as follows: Subjective sleep quality (Question 6); Sleep latency (Questions 2 and 5a); Sleep duration (Question 4); Habitual sleep efficiency (Questions 1, 3 and 4) Sleep disorders (Questions 5b up to 5j); Use of sleeping medications (Question 7); daytime sleepiness and disturbances during the day (Questions 8 and 9). Question ten is of optional use

and will not be applied in this research, since it requires the presence of a roommate for your analysis.⁸

The overall score is generated by the sum of the score of each component, which has a weight ranging from 0 to 3. Thus, the maximum possible value is 21 points, and the more this score, the worse the quality of sleep. Scores higher than five points indicate poor quality in sleep pattern. For the conversion of the answers obtained in each question to a likert scale, the instructions described next to the instrument in a research with health professionals will be followed.¹⁰

The WHOQOL-BREF, elaborated by the WHO, was validated for Portuguese in 1998¹¹, being a generic instrument for measuring quality of life (QOL). It is an instrument composed of 26 items, among which: two open questions about quality of life and 24 items on a five-point Likert scale (1 - 5). The 24 items are distributed in four domains that denote an individual perception of quality of life for each particular facet of QOL, namely: Physical, Psychological, Social Relations and Environment.¹¹ The other two items are evaluated separately, so that: Item 1 denotes the individual's perception of his/her QoL; and Item 2 assesses its perception of satisfaction with your health.¹¹ For WHOQOL-Bref analysis, items 3, 4 and 26 should have their scale inverted as follows: 1=5; 2=4; 3=3; 4=2; 5=1. After this process, we must calculate the mean per domain, obtained by the sum of the scores attributed to each item of the domain and divided by the number of items that make up the domain.¹¹ In order for the WHOQOL-BREF scores to be comparable to those of the WHOQOL-100, the mean of each domain must be multiplied by 4. For the analysis of general quality of life, the average of all items per individual should be performed. The higher the scores obtained in the domains and in the general evaluation, the higher the quality of life presented by the subject.¹¹

For data organization and analysis, a database was created in the Excel program (Office 2010) and the Statistical Package for Social Sciences (SPSS, version 20.0) program was used. The qualitative variables will be presented in absolute (n) and percentage values (n%). Quantitative variables will be exposed in descriptive measures: minimum and maximum values, mean and standard deviation. Cronbach's alpha will be applied to analyze the reliability of the applied instruments.

In compliance with the Guidelines and Regulatory Standards of Research Involving Human Beings (RESOLUTION CNS 466/12), this project was submitted to the Research Ethics Committee (CEP) of the private higher education institution of the state of Goiás, having been approved on July 13, 2020 under opinion number 4,151,512.

Results

The initial study population consisted of 215 students from health courses (Nursing, Pharmacy and Physiotherapy), and 34 students agreed to participate in the research and composed the access population of this research. Table 1 shows the sociodemographic and academic data (Categorical variables) of health students.

Table 1- Sociodemographic and academic data (Categorical variables) of students in the health area (n=34). Goiás, 2022.

Variable	Category	n	%
Gender	Female	27	79,4
	Male	7	20,6
Marital Status	Married	11	32,4
	Divorced	2	5,9
	Separate	3	8,8
	Single	18	52,9
Children	No	18	52,9
	Yes	16	47,1
Who do you live with?	Family	30	88,2
	Other	1	2,9
	Alone	3	8,8
Sports Practice	No	24	70,6
	Yes	10	29,4
Leisure Practice	No	13	38,2
	Yes	21	61,8
Source of Income	Paid Internship	3	8,8
	Other	5	14,7
	Family resource	9	26,4
	Fixed Work	17	49,9
	Total	34	100
Responsible for maintenance	Didn't answer	6	17,6
	Parents	14	41,1
	Other	14	41,2
Sufficient Monthly Income	No	20	58,8
	Yes	14	41,2
Do you use drugs to inhibit sleep?	No	27	79,4
	Yes	7	20,6
Do you use sleeping drugs?	No	31	91,2
	Yes	3	8,8
Do you have a habit of smoking?	No, I've never smoked.	32	94,1
	Yes, I smoke.	2	5,9
Do you drink alcohol?	No, I've never had a drink.	17	50
	No, I stopped	1	2,9
	Yes, I drink	16	47,1
Means of transport	Car	22	64,7
	Car and Bus	1	2,9
	Bus	11	32,4
Work	No	23	67,6
	Yes	11	32,4
Health experiences	No	17	50
	Yes	17	50

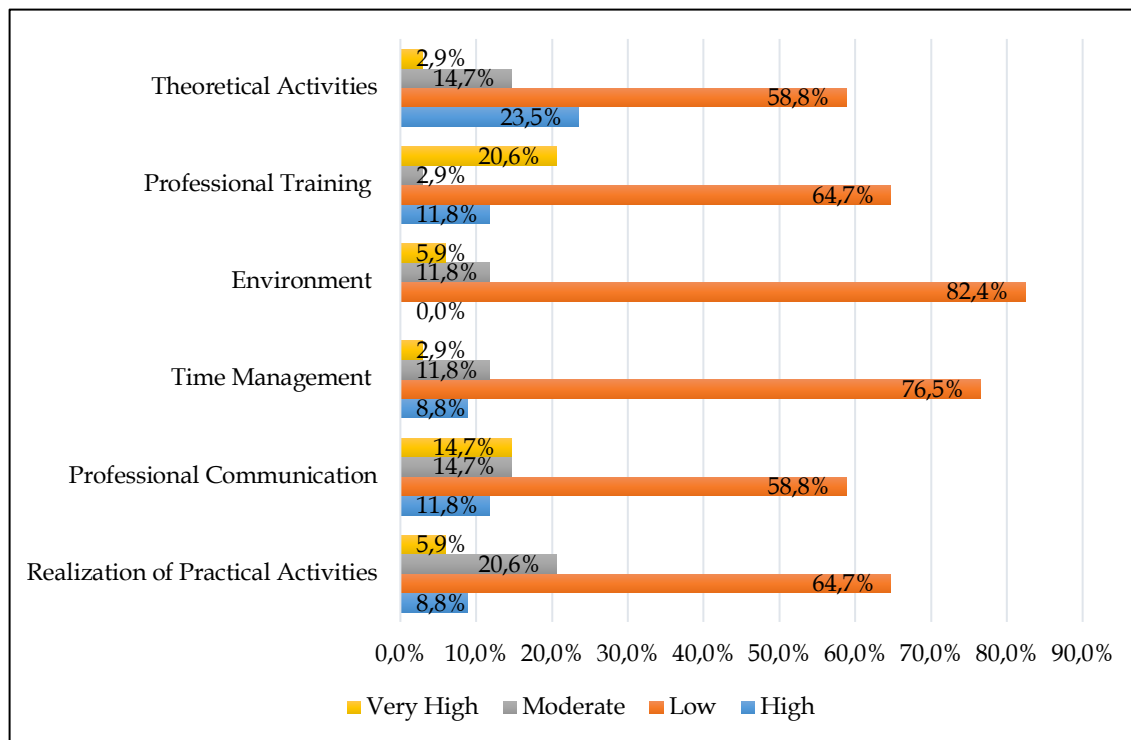
	Total	34	100
Are you satisfied with the course?	No	2	5,9
	Yes	32	94,1
Have you thought about dropping out of school?	No	19	55,9
	Yes	15	44,1

Above, there is a predominance of female students (79.4%), single (52.9%), without children (52.9%) who live with their families (88.2%), who have steady work as a source of income (49.9%) and parents as responsible for financial maintenance (41.1%), with 58.8% stating that the monthly income is not enough to maintain. Besides, 70.6% do not practice sports and 61.8% do leisure activities, 79.4% use medication to inhibit sleep, 47.1% have the habit of drinking alcohol, 5.9% have the habit of smoking, 50% have previous experience with the health area, 94.1% are satisfied with the course and 44.1% have thought about giving up the course at some point. Table 2 shows the sociodemographic and academic data (Continuous variables) of health students.

Table 2- Sociodemographic and academic data (Continuous variables) of students in the health area (n=34). Goiás, 2022.

Variable	Minimum	Maximum	Mean	Median	Standard Deviation
Age	17	47	29,1	29	8,26
Time to reach the Educational Institution (minutes)	5	120	28,4	20	25,10

It is observed in the table above that the students have an average age of 29.1 years (SD: 8.26 years) and take, in median, 20 minutes to reach the educational institution (SD:25,10). Figure 1 shows the distribution of students according to the levels of stress per domain of the ESA

Figure 1- Distribution of students according to stress levels by AEEE domain. Goiás, 2022.

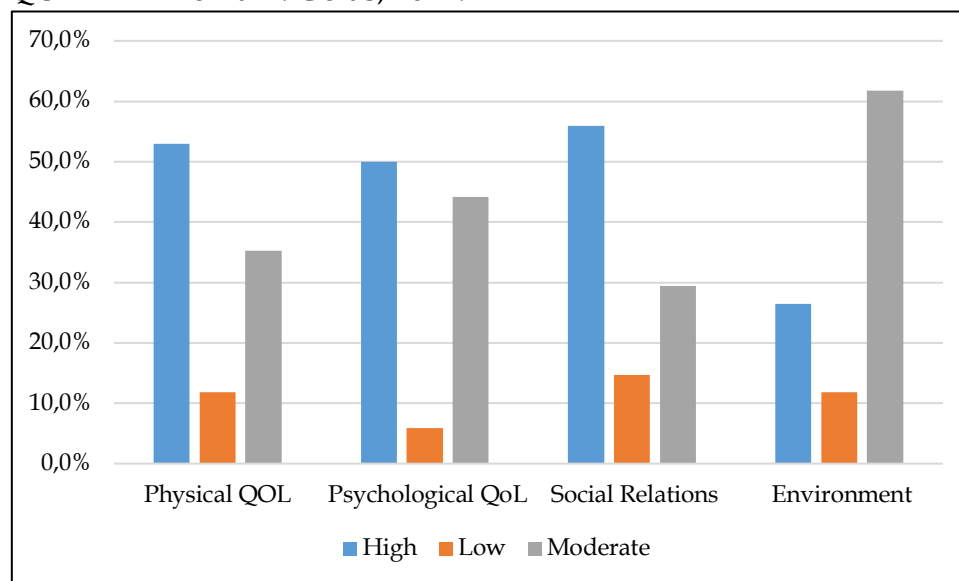
We can see above that there was a predominance of low stress in all domains of the instrument. Despite this, the occurrence of high stress in theoretical activities (23.5%), very high stress in professional training (20.6%) and medium stress in carrying out practical activities (20%) stands out. Table 3 shows the distribution of students according to general stress levels, sleep quality and quality of life.

Table 3- Distribution of students according to general stress levels, sleep quality and quality of life. Goiás, 2022.

Variable	Level	n	%
General Stress	High	18	52,9
	Low	16	47,1
Sleep quality	High	7	20,6
	Low	27	79,4
Quality of life	Low	12	35,3
	Moderate	14	41,2
	High	8	23,5

Above, there is a predominance of students with a high level of stress (52.9%), low quality of sleep (79.4%) and moderate quality of life (41.2%), followed by those with low quality of life (35.3%). Figure 2 shows the distribution of students according to levels of quality of life by WHOQOL-BREF Domain.

Figure 2- Distribution of students according to quality-of-life levels by WHOQOL-BREF Domain. Goiás, 2022.



Above, the predominance of students with high physical quality of life (52.9%), psychological (50.0%) and related to Social Relations (55.9%) can be observed. On the other hand, the quality of life related to the Environment was predominantly moderate (61.8%).

Discussion

There was a predominance of female students (79.4%), single (52.9%), no children (52.9%), who live with their families (88.2%), who have fixed work as a source of income (49.9%) and parents responsible for financial maintenance (41.1%), and 58.8% say that monthly income is not sufficient for maintenance.

It is known that studies indicate that health students, predominantly in the current literature, refer to females. As is perceived in the research under discussion.¹²

Researchers report that the quality of life of university students in the health area is currently related, among other factors, to economic issues^{5,6}. The study highlights that 58.8% when reporting that monthly income is not sufficient for maintenance, it becomes something worrisome for QoL.

Authors point out that the uncertainties regarding the conditions of living with the costs of college, the insertion in the labor market and the realization and professional satisfaction at the end of the graduation in health, corroborates the emergence of anxiety and inner suffering feelings, so many students want to take advantage of all available opportunities, however, by not achieving balance in student life, students end up having an overload in their social and family life, a fact that can generate stresses at various levels.¹³

Moreover, it was observed that 70.6% do not practice sports and 61.8% do leisure activities, 79.4% use medications to inhibit sleep, 47.1% have the habit of drinking alcohol, 5.9% have the habit of smoking, 50% have previous experience with the health area, 94.1% are satisfied with the course and 44.1% have already

thought about dropping out of the course at some point. Table 2 shows the sociodemographic and academic data (Continuous variables) of health students.

Changing sleep standards and quality lead to harm, such as: lower concentration capacity, difficulties in performing tasks and planning them, with an impact on the student's quality of life.⁵

The use of medications to inhibit sleep, the habit of drinking and smoking, among other aspects collected in the research, has in the scientific literature, a basis for such attitudes, because authors highlight that university students are often subject to varied times of studies due, always with overload of educational tasks, besides having to manage personal life, and family with school exercises and exams. Thus it is noticeable that the need to meet these commitments compromises sleep, causes daytime sleepiness and increases the risk of stresses.¹²

It was observed that the students have an average age of 29.1 years (SD: 8.26 years) and take, in median, 20 minutes to reach the educational institution (SD:25,10). Figure 1 shows the distribution of students according to the stress levels per Domain of the ESA.

The results of Figure 1 are consistent with several authors, in the item that highlights that in the analysis of the data obtained in the research, in relation to the domain of the ESA instrument, it is found that the domain on the performance of practical activities aimed at performing procedures that end up guide the level of stress of the students.^{14,15,12} Regarding the stress assessment scale, it is worth mentioning that this pathology is defined, starting from the interactionist model, as any stimulus of external or internal environments interfering in the adaptation of people to social life.⁴

In the comparisons between the stress levels in the research, there was a predominance of low stress in all domains of the instrument. Nevertheless, we highlight the occurrence of high stress in theoretical activities (23.5%), very high stress in professional education (20.6%) and medium stress in performing practical activities (20%). Table 3 shows the distribution of students according to the levels of general stress, quality of sleep and quality of life.

As health students at a higher level have an excessive burden of subjects to attend and at the end of the course supervised internships, researchers recognize that the student during his course is in front of many activities, interfering in the quality of sleep and life, thus becoming a potential patient for the involvement of stresses.^{16, 17}

The predominance of students with high stress level (52.9%), low sleep quality (79.4%) and moderate quality of life (41.2%) was identified, followed by those with low quality of life (35.3%). Figure 2 shows the distribution of students according to quality-of-life levels by WHOQOL-BREF Domain. According to authors who deal with the relationship stresses and academic life, there is a consensus that there are three distinct phases of stress, the first being the alert phase, the second to the resistance phase and the third phase of exhaustion which are differentiated by a set of characteristic symptoms.^{18, 19}

The research in question highlights that 52.9% of the students are in the Exhaustion Phase, and this factor is seen as something in relation to this pathology. As for low quality of life having an index of (35.3%), this data deserves attention on the part of scholars in the area, because QoL can be a complex process, because it involves subjective aspects, among health students

who live intensely objectively, concerned with happiness, love, pleasure and full personal and professional fulfillment.^{15, 20}

The predominance of students with high quality of physical life (52.9%), psychological (50.0%) and related to Social Relations (55.9%) was attested. On the other hand, the quality of life related to the Environment was predominantly moderate (61.8%). Studies indicate that stress is caused by a psychological, environmental or physiological stimulus, seen as a threat to the balance of the organism that is in a situation of physical and emotional effort,²¹ this statement is consistent with the results obtained in this research.

Conclusion

There was a predominance of students with a high level of general stress (52.9%). In the analysis of this phenomenon according to the domains of the ESA, high stress was observed in theoretical activities (23.5%), very high stress in professional education (20.6%) and medium stress related to the performance of practical activities (20%). In addition, it was observed that students have low sleep quality (79.4%) and moderate quality of life (41.2%), followed by those with low quality of life (35.3%).

It is observed that the academic environment and its demands are perceived as stressful by the students, especially with regard to the demands of theoretical activities throughout the course, to clinical practices, including internships and laboratory class, as well as with the future professional after the end of the course. In this context, students develop low sleep quality and lower quality of life.

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