Stress factors associated with depressive symptoms and sleep quality in nursing students

Fatores de estresse associados à sintomatologia depressiva e qualidade do sono de acadêmicos de enfermagem

Factores de estrés asociados a síntomas depresivos y calidad del sueño en estudiantes de enfermería

Daysi Alves Lima[1], Erica Soares da Mota Maia de Carvalho de Queiroz[2], Rodrigo Marques da Silva[3], Ana Lúcia Siqueira Costa[4], Izabel Alves das Chagas Valóta[5], Ana Paula Neroni Stina Saura[6]

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1. Faculdade de Ciências e Educação Sena Aires. Valparaiso de Goias, Goias, Brazil.
https://orcid.org/0000-0002-7606-8947

2. Faculdade de Ciências e Educação Sena Aires. Valparaiso de Goias, Goias, Brazil.
https://orcid.org/0000-0003-4436-5346

3. Faculdade de Ciências e Educação Sena Aires. Valparaiso de Goias, Goias, Brazil.
https://orcid.org/0000-0003-2881-9045

4. University of São Paulo, Nursing School. Sao Paulo, Sao Paulo, Brazil.
https://orcid.org/0000-0001-7830-9751

5. University of São Paulo, Nursing School. Sao Paulo, Sao Paulo, Brazil.
https://orcid.org/0000-0003-3434-6045

6. University of São Paulo, Nursing School. Sao Paulo, Sao Paulo, Brazil.
https://orcid.org/0000-0003-2480-9667

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RESUMO

Objetivo: Analisar os fatores estressores associados à sintomatologia depressiva, qualidade de sono de acadêmicos de enfermagem**. Método:** Trata-se de uma pesquisa transversal, analítica e de abordagem quantitativa, realizada em março de 2016 junto a 159 discentes da área de saúde de uma instituição pública do estado de São Paulo por meio de instrumentos validados. Os dados foram analisados no Statistical Package for Social Sciences, versão 25.0, por meio de regressão linear. Valores de p<0,05 foram considerados significativos**. Resultados:** Observou-se, predomínio de alto estresse (50,9%), seguido por médio estresse (46,5%), bem como baixa qualidade do sono (99,4%) e presença de sintomas depressivos (100%) entre os discentes de enfermagem avaliados. Os fatores de estresse Gerenciamento do Tempo e ao Ambiente contribuíram significativamente para a redução na qualidade do sono. Já os fatores Gerenciamento do Tempo e a Realização de Atividades Práticas levaram ao aumento da sintomatologia depressiva entre os discentes. **Conclusão:** Os fatores de estresse estão significativamente associados à sintomatologia depressiva e à qualidade de sono de acadêmicos de enfermagem, que justifica a necessidade de uma revisão nas ações voltadas ao manejo de tais fatores durante a formação acadêmica.

Descritores: Estudantes; Estresse Psicológico; Qualidade de Vida.

ABSTRACT

Objective: To analyze the stressors associated with depressive symptoms, sleep quality of nursing students. **Method:** This is a cross-sectional, analytical and quantitative study, carried out in March 2016 with 159 students from the health area of a public institution in the state of São Paulo using validated instruments. The data were analyzed in the Statistical Package for Social Sciences, version 25.0, using linear regression. Values of p <0.05 were considered significant. **Results:** There was a predominance of high stress (50.9%), followed by medium stress (46.5%), as well as low quality of sleep (99.4%) and presence of depressive symptoms (100%) among the nursing students evaluated. The stress factors Time Management and the Environment contributed significantly to the reduction in sleep quality. The factors Time Management and Practical Activities led to an increase in depressive symptoms among students. **Conclusion:** Stress factors are associated with depressive symptoms and the quality of academic nursing sleep, which justifies the need for a review of actions aimed at treating these factors during academic training.

Descriptors: Students; Stress, Psychological; Quality of Life.

RESUMEN

Objetivo: Analizar los factores estresantes asociados a síntomas depresivos, calidad del sueño de estudiantes de enfermería. **Método:** Se trata de un estudio transversal, analítico y cuantitativo, realizado en marzo de 2016 con 159 estudiantes del área de salud de una institución pública del estado de São Paulo utilizando instrumentos validados. Los datos se analizaron en el paquete estadístico de ciencias sociales, versión 25.0, mediante regresión lineal. Se consideraron significativos valores de p <0,05. **Resultados:** predominó el estrés alto (50,9%), seguido del estrés medio (46,5%), así como la baja calidad del sueño (99,4%) y la presencia de síntomas depresivos (100%) entre los estudiantes de enfermería evaluados. Los factores de estrés Gestión del tiempo y el medio ambiente contribuyeron significativamente a la reducción de la calidad del sueño. Los factores Gestión del tiempo y Actividades prácticas llevaron a un aumento de los síntomas depresivos entre los estudiantes. **Conclusión:** Los factores de estrés están asociados a los síntomas depresivos y la calidad del sueño de enfermería académica, lo que justifica la necesidad de una revisión de las acciones dirigidas a tratar estos factores durante la formación académica.

Descriptores: Estudiantes; Estrés Psicológico; Calidad de Vida.

ORIGINAL

Introduction

The experience in higher education clashes with important and specific stages of human physical, cognitive, psychological and social development. With the need to face the characteristic transformations of this development in the construction of their identity, the academic deals with the specific obligations of academic life and the transition to adult life.[1-2] The insertion in the academic world is a milestone in the life of this student, which includes a set of regulations, procedures, groups and people totally unknown; interpersonal contact with other students, teachers and other employees of the institution; as well as tests and assessments.

In addition, in health courses, students live with intense routine, difficulties in interpersonal relationships, the didactics adopted by teachers and personal problems that directly or indirectly affect higher education academics, feeling of dehumanization, lack of time for teaching activities. leisure, disputes between students and the very contact with patients.2-3 In the nursing course, initiation to clinical care also stands out, including care for patients with serious and / or terminal illnesses, the ethical conflicts involved in the health care, as well as the vulnerabilities and weaknesses of the health system.[4-5]

In this context, students during the course go through a process of transformation, learning and instruction, differing in their expectations, in their cognitive skills, academic performance and psychosocial evolution. However, when interacting with different potentially stressful situations, it is possible for nursing students to experience stress throughout their academic training.[6]

Stress, according to the interactionist model, is defined as any situation that rates or exceeds the adaptation resources of an individual or social system.[7] Therefore, in the academic context, stress is understood as a set of physiological, emotional and cognitive reactions - behaviors that are triggered by stimuli and academic events.[8,13] Such stressors impact the student's life in different ways, as the answer given to him is unique to each individual, including from the lack of stress to the appearance of serious pathologies linked to exposure to stressors, which will depend on how the student evaluates the situation, the severity it presents to him and the coping strategies used.[9-10] When there is no use of effective coping strategies, it is possible that stress is maintained and other changes in physical and emotional health occur, such as the decrease in the quality of sleep of students.

Sleep is a picture related to the changeable behavior of distancing wisdom from perception and relative response to the environment. The neurobiological processes that occur in sleep are necessary, in all species, for the preservation of physical and cognitive health.[11] Due to these important functions, sleep changes can cause considerable changes in the person's physical, occupational, cognitive and social functioning , in addition to considerably affecting their quality of life.[12] This is because sleep plays an important role in memory fixation and its deprivation can lead to excessive daytime sleepiness, poor sleep quality and insomnia, with an impact on the learning process .[13] In a study of 136 students (24 men and 112 women), 61.8% had poor sleep quality.14 Cross-sectional research carried out with 277 students at the Federal University of Paraíba, showed that students took about 28.81 minutes to be able to sleep and the duration of sleep was, on average, 5 hours and 50 minutes.[13] About this, studies have already associated the least amount of hours of sleep with the greatest risk of developing high blood pressure and impaired academic performance.13 In addition, poor sleep quality is directly associated with changes in inflammatory mediators, increased cardiovascular diseases, such as atherosclerosis, and the occurrence of depressive symptoms.[13,15]

Depressive symptoms refer to symptoms such as loss of interest in daily activities, drop in mood level, loss of interest or pleasure in chores, these symptoms can be confused with depression, which is described as a mood disorder that it affects individuals both in their routine and in their cognitive ability.[16] Depressive symptoms

have a strong chance of presenting in early adulthood and which can occur in conjunction with entering academic life. This simultaneity occurs due to major changes that may or may not be predicted during the course, encouraging the appearance of interpersonal adversities and the appearance of these symptoms.[17]

Thus, it can be said that academic stressors, when not well handled by the student, can lead to a decrease in sleep quality and the occurrence of depressive symptoms. This association of stress and depressive symptoms was observed in research carried out with 5,000 Canadian university students in which it was found that high levels of stress favored the increase in depressive symptoms.[18] Still, the occurrence of poor sleep quality was verified in 60 of the students of university courses analyzed in a survey conducted in Chicago.[18] However, although previous studies have assessed the relationship between academic stress and sleep quality and depressive symptoms in Brazil and abroad, few studies have evaluated the impact of stress on these outcomes in nursing students . This is an area of training of special importance, since, along with the educational process, the student lives with health care, the responsibility attached to it, the illness and, often, the death of patients.[2-19-20]

Thus, the objective of this research was to identify the stressors associated with depressive symptoms and sleep quality in nursing students.

Method

A cross-sectional, analytical and quantitative study was carried out with all nursing students at a public university in the state of São Paulo.

Data collection was carried out in March 2016. Students regularly enrolled in all years of the institution's nursing course and over 18 years old were included. Those who, during the collection period, were prevented from taking all subjects in the following semester due to failures in the previous year were excluded.

The research protocol was composed by the following instruments: Form for sociodemographic and academic characterization; Nursing Student Stress Assessment Instrument (NSSAI), Center for Epidemiologic Studies Depression Scale (CES-D) and Pittsburgh Sleep Quality Index (IQSP). These instruments were delivered in person in the classroom, after authorization and direct scheduling with professors of the disciplines to be taught in the nursing course, with a date scheduled for collection with the students on the day of data collection.

The Sociodemographic Characterization Form addressed the following variables: initials of name, e-mail, telephone, date of birth, sex, children, ethnicity, marital status, city of residence, with whom you live, type of institution where high school was attended mostly, form of admission to the undergraduate course, leisure activities, sports, income sources, total monthly income received in minimum wages, monthly expenditure in minimum wages, sufficiency of monthly income for maintenance, use oral or injectable contraceptives, use of a drug or substance (tea, coffee, energy drinks, etc.) to inhibit sleep and to get to sleep; smoking and alcohol consumption.

The Nursing Student Stress Assessment Instrument (NSSAI) was proposed by Costa and Polak in 200921 and consists of 30 items grouped into six domains: Carrying out 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); Professional training

(Items 1,15,17,19,25 and 27); Theoretical activity (Items 2,10,13,14 and 28). The items are presented on a four-point likert scale where: zero - "I don't 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 with the situation". [21] To identify the intensity of stress due to the NSSAI factor, risk quartiles defined by the instrument's authors were used.[21] To check the level of general stress per student, the average of the 30 items of the instrument, being statistically compared the stress scores obtained at the beginning and at the end of the first year of the course. The Alpha values obtained for the NSSAI domains in the validation process were respectively: 0.806 (Practical Activities), 0.768 (Professional Communication), 0.717 (Time Management), 0.866 (Environment), 0.772 (Professional Training), 0.720 (Theoretical Activity).[21]

CES-D was semantically validated for Portuguese by Silveira and Jorge in 1998[22] and applied to Brazilian university students by Filho and Teixeira in 2011.[23] The objective of this instrument is to assess the frequency of depressive symptoms experienced in the week prior to the application of the instrument. It contains 20 scalar items about mood, somatic symptoms, interactions with others and motor functioning. These are divided into four subscales, namely: Depression (Items 3,6,9,10,14,17 and 18), Interpersonal (Items 15 and 19), Positive Affection (Items 4,8,12,16) and Somatic / Initiative (Items 1,2,5,7,11,13 and 20). Such items are arranged on a four-point Likert scale, with 0 = Rarely (less than 1 day), 1 = For a short time (1-2 days), 2 = For a moderate time (3-4 days), 3 = Most of the time (5-7 days).[23] The final score ranges from zero to 60 points. In the North American version, the cutoff point for identifying depression, considering all the items on the scale, is ≥ 16 points.[24] However, for Brazilian university students, the cutoff point with the best performance is ≥15.[22] Cronbach's Alphas obtained in the instrument validation process for Brazilian university students, they were respectively: 0.89 for the 20 items; 0.86 for the Depression subscale; 0.70 for the subscale. Interpersonal; 0.65 for the subscale Positive affects; and 0.75 for the subscale "Somatics / initiative".[23]

The Pittsburgh Sleep Quality Index (IQSP) will be used to assess subjective quality of sleep, having been validated in 1989 by Buysse, Reynolds, Monk, Berman and Kupfer with patients with sleep dysfunction compared to patients without these changes.[25] It was validated in Brazil by Bertolazi in order to assess the quality of sleep in relation to the last month.[26] Subsequently, this instrument was applied to Brazilian university students from different locations.[27-28] In this instrument, there are ten questions, being: question one to four - open; and five to 10- semi-open. Such questions are divided into seven components, as follows: Subjective sleep quality (Question 6); Sleep latency (Questions 2 and 5a); Sleep duration (Question 4); Usual sleep efficiency (Questions 1, 3 and 4) Sleep disorders (Questions 5b to 5j); Use of sleeping medications (Question 7); daytime sleepiness and disturbances during the day (Questions 8 and 9).[29] Question 10 is optional and will not be applied in this research, as it requires the presence of a roommate for your analysis.[26] The global score is generated by sum of the score of each component, which has a weight ranging from 0 to 3. Thus, the maximum possible value is 21 points, the higher the score being, the worse the quality of sleep. Scores above five points indicate poor quality of sleep pattern. To convert the answers obtained in each question to a Likert scale, the instructions described with the instrument in research with health professionals will be followed.[30] In validating the

instrument for the Brazilian reality, Cronbach's Alpha for all items of the instrument was 0.82, attesting to the instrument's satisfactory internal consistency.[26]

For data organization and analysis, a database was created in the Excel program (Office 2007) and the program Statistical Package for Social Sciences (SPSS, version 20.0) was used. The instruments were analyzed as previously described, recommending the analysis described by their authors. Qualitative variables were presented in absolute (n) and percentage (n%) values. Quantitative variables were exposed in descriptive measures: minimum and maximum values, mean and standard deviation. For the analysis, simple linear regression was used, with a backward method for the selection of variables, the Adjusted R^2 as the model's adjustment indicator and the ANOVA (Test F) as its significance indicator. The partial correlation and the respective p-value were used as exclusion criteria for variables in the tested models. In each model, variables with the lowest partial correlation were excluded until the final model was obtained. The effect of each predictor on the stress level outcome was assessed using Beta values, with statistical significance of 5%. The assumptions of linearity of relations and normality of errors were evaluated to define the final model. The residuals (difference between observed and expected values) were evaluated in each model using the Variance Inflation Factor (VIF). Cronbach's alpha was applied to analyze the reliability of the instruments applied.[31]

The research project was assessed and approved by the Research Ethics Committee (CEP) of the researched public institution, under opinion No. 1,363,890, on December 11, 2015. In compliance with CNS Resolution 466/12, it was delivered to the subjects of researches a Free and Informed Consent Form with the instruments, which was signed in two copies (one for the subject and another for the researcher), authorizing voluntary participation in the research.

Results

In March, there were 86 students enrolled in the first year, 77 in the second year, 64 in the third year and 65 in the fourth year, totaling 292 students as the initial population. However, 49 students from the first year, 43 from the second year, 30 from the third year and 37 from the fourth year returned the completed protocol, which led to an access population of 159 nursing students.

The Cronbach's Alpha values for the total items of the NSSAI, CES-D and IQSP were 0.87, 0.72 and 0.70, respectively, which confirms their reliability for application in nursing students. Table 1 shows the sociodemographic and academic characteristics of nursing students.

Table 1- Sociodemographic characteristics of nursing students. São Paulo, 2016.

Variables Sociodemographic *		**N (%)**
Sex	Feminine	145 (91,2%)
	Male	14 (8,8%)
Marital Situation	Married	3 (1,9%)
	Separate	1 (0,6%)
	Single with partner	26 (16,4%)
	Single without a partner	126 (79,2%)
	Other	2 (1,3%)

Children	Yes	5 (3,1%)
	No	154 (96,9%)
Monthly Income	No income	4 (2,5%)
	Up to 1 minimum wage	25 (15,7%)
	Between 1 and 2 minimum wages.	32 (20,1%)
	Between 2 and 5 minimum wages.	40 (25,2%)
	Between 5 and 10 minimum wages.	39 (24,5%)
	Between 10 and 30 minimum wages.	15 (9,4%)
	More than 30 minimum wages	1 (0,6%)
Monthly Expenditure	No income	4 (2,5%)
	Up to 1 minimum wage	83 (52,2%)
	Between 1 and 2 minimum wages.	36 (22,6%)
	Between 2 and 5 minimum wages.	21 (13,2%)
	Between 5 and 10 minimum wages.	12 (7,5%)
	More than 30 minimum wages	1 (0,6%)
Sufficient monthly income for maintenance	Yes	81 (50,9%)
	No	77 (48,4%)
Sport	Yes	60 (37,7%)
	No	99 (62,3%)
Recreation	Yes	112 (70,4%)
	No	43 (27%)
Drug to inhibit sleep	Yes	75 (47,2%)
	No	76 (47,8%)
	I Stopped	6 (3,8%)
Drug to get to sleep	Yes	10 (6,3%)
	No	140 (88,1%)
	I Stopped	9 (5,7%)
Smoker	Yes	6 (3,8%)
	No, I Stopped	3 (1,9%)
	I never Smoked	150 (94,3%)
Alcohol Consumption	Yes, I drink	90 (56,6%)
	No, I Stopped	1 (0,6%)
	No, I never Drank	68 (42,8%)

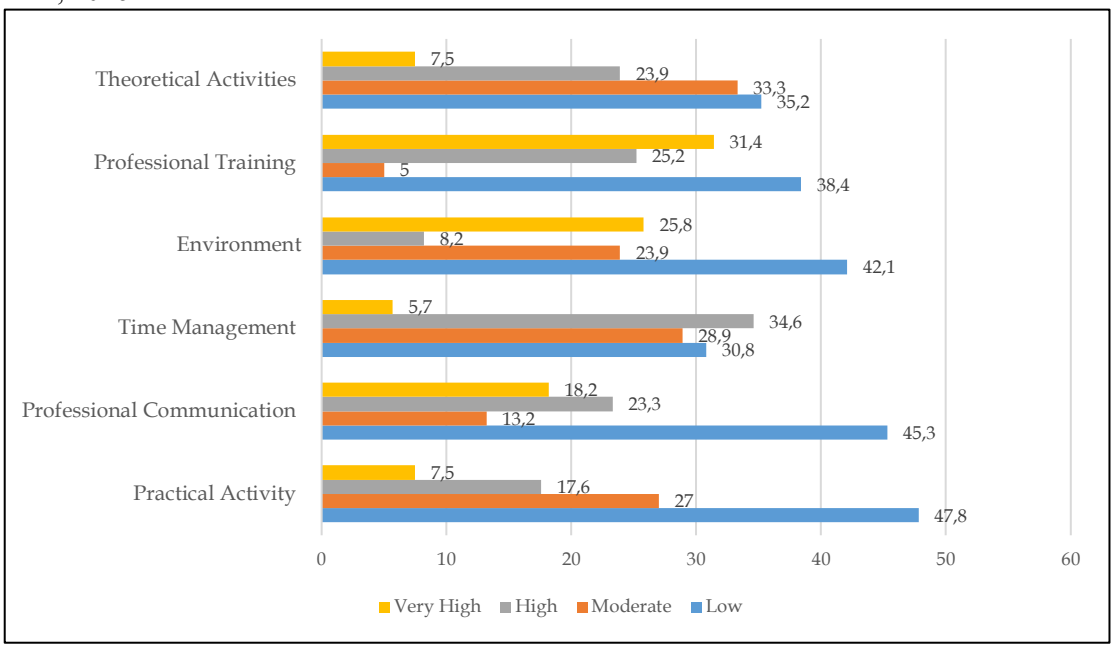
There is a predominance of female students (91.2%), single without a partner (79.2%), without children (96.9%), who perceive monthly income between 2 and 5 minimum wages (25.2%), with monthly expenses of up to one minimum wage (52.2%), who consider the monthly income sufficient for maintenance (50.9%), do not perform sport activities (62.3%) and do leisure activities (70 , 4%). 47.2% of the students ingest drugs to inhibit sleep and 88.1% do not use drugs to get to sleep, in addition to never having smoked (94.3%) and consuming alcoholic beverages (56.6%). Table 2 shows the distribution of nursing students according to the level of general stress, quality of sleep and the presence of depressive symptoms.

Table 2- Distribution of nursing students according to the level of general stress, quality of sleep and the presence of depressive symptoms. São Paulo, 2016.

Variables	Leve / Category	N (%)
Stress	Low	1 (0,6%)
	Medium	74 (46,5%)
	High	81 (50,9%)
	Very High	3 (1,9%)
Sleep Quality	Low	158 (99,4%)
	High	1 (0,6%)
Depressive Symptoms	Presents	159 (100%)
	Absent	0 (0%)

Above, there is a predominance of high stress (50.9%), followed by medium stress (46.5%), as well as low quality of sleep (99.4%) and presence of depressive symptoms (100%) among the nursing students evaluated. Figure 1 shows the percentage distribution of nursing students according to stress levels due to the NSAAI factor.

Figure 1- Percentage distribution of nursing students according to NSSA' stress levels. São Paulo, 2016.



Above, there is a predominance of low stress related to Professional Training (38.4%), Environment (42.1%) Professional Communication (45.3%) and Practical Activity (47.8%). There is a predominance of high stress in Time Management (34.6%) and low (35.2%) and medium (33.3%) stress related to Theoretical Activities among students. Table 3 shows the Adjustment indicators and the process of excluding variables between the tested initial and final models.

Table 3- Adjustment indicators and process of exclusion of variables between the initial and final models tested. São Paulo, 2016.

Stress Factors vs. Sleep Quality				
Tested Models	R^2 Adjusted	Variable excluded for each model	Partial Correlation*	ANOVA (Test F) for the model
Initial Model	0,109	-	0,007	0,001
Model 2	0,115	Professional Communication	0,007	p<0,001
Final Model	0,120	Practical activities	-0,032	p<0,001

Stress Factors vs. Depressive Symptoms				
Tested Models	R^2 Adjusted	Variable excluded for each model	Partial Correlation*	ANOVA (Test F) for the model
Initial Model	0,094	-	0,034	0,002
Model 2	0,099	Environmet	0,034	0,001
Final Model	0,102	Professional Training	-0,051	p<0,001

* Variable exclusion parameter

Table 3 shows that, due to p values greater than 0.05 and low partial correlation, some variables were excluded, among which: Professional Communication and Practical Activities in the analysis for the dependent variable Quality of Sleep; and Environment and Professional Training in the analysis of the effect of stress factors on depressive symptoms. Thus, the final model was obtained according to the data presented in Table 4.

Table 4- Final linear regression model of stress factors on sleep quality and depressive symptoms in nursing students. São Paulo, 2016.

Stress Factors vs. Sleep Quality		
Predictor variables	β	P value
(Constant)	5,833	0,001
Time Management **	0,277	0,017*
Enverionment**	0,297	<0,001*
Professional Training	0,095	0,213
Theoretical Activity	-0,145	0,207
Stress Factors vs. Depressive Symptoms		
Predictor variables	**β**	**P value**
(Constant)	26,533	<0,001
Practical Activities	,518	0,017*
Professional Communication	-,324	0,227
Time Management	,906	0,001*
Theoretical activity	,205	0,446

* Statistically significant value (p<0,05)
** Due to the inverse scale, the positive sign shows an opposite relationship.

It can be seen, above, that the stress related to Time Management and the Environment contributes to the reduction in sleep quality among nursing students. Likewise, Time Management and Practical Activities contribute to the increase in depressive symptoms among students.

Discussion

In this research, it was possible to better understand the sociodemographic and academic profile of a group of university students in nursing, which helps to understand the levels of stress, quality of sleep and depressive symptoms among students.

Regarding gender, there was a predominance of female students, a finding similar to that found in a study carried out with 110 nursing students from a higher education institution in the city of Santo André, São Paulo, with 77% female representation. The predominance of women in higher education is described as a national trend, and it is important to note that historically care and assistance were considered attribution and extension of female work[32], elements that can justify the results of this study.

There was a predominance of single and childless students. As for the students' lifestyle, 94.3% of the students never smoked, 56.6% consume alcoholic beverages, 47.2% ingest drugs to inhibit sleep, 88.1%, do not use drugs to get to sleep, 62.3% deny doing sports and 70.4% say they practice leisure activities. About this, in a survey conducted through an online platform with 152 nursing students, the use of alcoholic beverages (81.97%) was observed, followed by tobacco (38.1%).[34] It is observed that students, as they are single and without children, they have more time to meet academic demands, since the time that could be divided with family ties is, in general, reverted to the course activities.[33] On the other hand, there is a profile at risk, because, although they are not smokers and perform leisure activities, students do not play sports and ingest drugs to inhibit sleep, elements that can contribute to alter sleep patterns and decrease sleep quality.[34-36]

In this context, among the most affected psychobiological needs, sleep and rest were also found, with low quality of sleep being seen in 99.4% of students. This frequency was higher than that found in a similar study conducted with 151 nursing students from São Paulo, in which 78.81% were identified as having poor sleep quality.[27] Equivalent value was found in a study carried out with 117 nursing students from two universities in the State of São Paulo, in which 94.8% of students had poor sleep quality.[37] This situation results in decreased performance to perform tasks, including academic ones, in addition to decreasing academic performance. Several factors can contribute to poor sleep quality, such as stress, academic demands, concerns, anxiety and insomnia. Extra academic activities have been shown to increase the risk of disturbances and quality of sleep, which leads to daytime sleepiness, with supporting symptoms of bad mood, ability to maintain memory, irritability and confusion.[35] A low attention point also emerges drug consumption among students, even with poor sleep quality, few students use sleep inhibitors or inducers.

In this sense, it was found that 50.9% of nursing students had high stress. A study carried out with 455 students of the Nursing course at a private educational institution, located in Fortaleza-Ceará, found that 64% of the sample had high levels of stress.38 The occurrence of stress among population groups is growing, a fact that is also observed among nursing students. The dedication required by health courses and the evaluation system contribute to the occurrence of stress since the beginning of the course.[38]

In relation to stress factors, the following data were found: predominance of low stress related to Professional Training (38.4%), Environment (42.1%) Professional Communication (45.3%) and Practical Activity (47 , 8%). There is a predominance of high stress in Time Management (34.6%) and low (35.2%) and medium (33.3%) stress related to Theoretical Activities among students. The predominance of a high level of stress related to the domain of Time Management can occur in relation to the period in which the student is in the course of the course, because, throughout the semesters, new skills, obligations and demands that need to be developed appear , demanding more time and efforts from the student.

The results of this study showed that 100% of nursing students were classified as having depressive symptoms. In a study carried out at the Federal University of Triângulo Mineiro with 384 students of courses in the Humanities, Health Sciences, Exact Sciences and Natural Sciences, it was found that 59.2% of the students suffered from depressive symptoms.[19] The period of entry into life academic and the course of the course bring to the students different experiences and exposures to stressors, which

can affect the academic performance and the physical and psychological health of the students.[19]

In this sense, it was observed that the stress in Time Management and the Environment, contribute to the reduction in sleep quality among nursing students. Within this scenario, we can ingest that there is an association between low quality of sleep and high level of stress, showing that the greater the stress the lower the quality of sleep, these stress factors being triggered by the pressures suffered within the academic environment, especially in final stages of the course, where there is a need to meet the academic demands required in this phase, with that the students end up using part of their rest time, to be able to meet these demands. Through this perspective, it appears that stress is related to the quality of sleep and clearly shows that students with a greater fragility in developing stress have a significant drop in sleep quality, decompensating mental and physical health. Thus limiting the students' potential in carrying out their activities during academic life.[27,39] Similarly, Time Management and Practical Activities contribute to the increase in depressive symptoms among students. Thus, stress factors can be correlated as triggers for the onset of depressive symptoms and possible conditions of chronic depression, as well as other health changes, including a fall in sleep quality.[19] Therefore, higher education can be a potentially stressful environment for students since, to meet academic demands and acquire the necessary practical skills, they deprive themselves of sleep time, redouble their study time and suffer from the fear of error and difficulties in the practical field. Thus, it is necessary to propose strategies on the part of teachers and managers in order to help students to manage and cope with stressful situations in a healthy way throughout academic training and, with that, start professional activity with less potential for physical and mental exhaustion.[18,21,27]

Conclusion

During professional training, students experience moments of preparation, instruction and uncertainty, making these students, most of them young, need to make meaningful decisions, which are evaluated as stressful. In these circumstances, it was found that stress factors are significantly associated with depressive symptoms and the quality of sleep of nursing students, with this, it is necessary to review actions aimed at the management of such factors during academic training.

Psychological assistance and the development of programs / projects by educational institutions are suggested to enable students to know and select strategies for coping with stressors more effectively, contributing to a healthier education and better use of the course, with improvement sleep quality and reduction of depressive symptoms.

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Correspondence Author
Izabel Alves das Chagas Valóta
419 Dr. Enéas de Carvalho Aguiar Av. ZIP: 05403-000. Cerqueira César. Sao Paulo, Sao Paulo, Brazil.
izabel.chagas@usp.br