

Analysis of Stress Factors in Nursing Students

Análise dos Fatores de Estresse em Discentes de Enfermagem
Análisis de los Factores de Estrés en Estudiantes de Enfermería

RESUMO

O estresse é uma resposta psicofisiológica resultante da interação entre estímulos externos e a forma como são percebidos e enfrentados pelo indivíduo. No contexto acadêmico, estudantes de enfermagem enfrentam altos níveis de estresse devido à carga de atividades, ao contato precoce com o cuidado ao paciente e aos desafios pessoais. Essas exigências podem comprometer a aprendizagem, o bem-estar e o desenvolvimento profissional. Este estudo buscou analisar a correlação entre características sociodemográficas, acadêmicas e profissionais com os fatores de estresse em estudantes de enfermagem do primeiro e do quarto ano, nos períodos de 2023 e 2024, utilizando o instrumento Análise de Estresse em Estudantes de Enfermagem (AEEE). Como resultado, obteve-se uma amostra majoritariamente composta por mulheres, solteiras, sem filhos e que residem com pais ou amigos. Observou-se maior destaque nos níveis de estresse relacionados ao "Gerenciamento de tempo", "Formação profissional", "Atividade teórica" e "Comunicação profissional", variando conforme os anos avaliados.

DESCRIPTORIOS: Enfrentamento; Estresse psicológico; Estudantes de enfermagem.

ABSTRACT

Stress is a psychophysiological response resulting from the interaction between external stimuli and the way they are perceived and managed by the individual. In the academic context, nursing students face high levels of stress due to workload, early contact with patient care, and personal challenges. These demands can compromise learning, well-being, and professional development. This study aimed to analyze the correlation between sociodemographic, academic, and professional characteristics and stress factors among first- and fourth-year nursing students during the 2023 and 2024 academic periods, using the Stress Analysis in Nursing Students (AEEE) instrument. The sample consisted predominantly of women, single, childless, and living with parents or friends. Higher stress levels were observed in the domains of "Time management," "Professional training," "Theoretical activity," and "Professional communication," varying according to the academic year evaluated.

DESCRIPTORS: Coping; Psychological Stress; Nursing Students.

RESUMEN

El estrés es una respuesta psicofisiológica resultante de la interacción entre los estímulos externos y la forma en que son percibidos y afrontados por el individuo. En el contexto académico, los estudiantes de enfermería enfrentan altos niveles de estrés debido a la carga de actividades, al contacto temprano con el cuidado del paciente y a los desafíos personales. Estas exigencias pueden comprometer el aprendizaje, el bienestar y el desarrollo profesional. Este estudio tuvo como objetivo analizar la correlación entre las características sociodemográficas, académicas y profesionales y los factores de estrés en estudiantes de enfermería del primer y cuarto año, durante los períodos de 2023 y 2024, utilizando el instrumento Análisis de Estrés en Estudiantes de Enfermería (AEEE). La muestra estuvo compuesta mayoritariamente por mujeres, solteras, sin hijos y que viven con sus padres o amigos. Se observaron niveles más altos de estrés relacionados con los dominios de "Gestión del tiempo", "Formación profesional", "Actividad teórica" y "Comunicación profesional", variando según los años evaluados.

DESCRIPTORIOS: Afrontamiento; Estrés Psicológico; Estudiantes de Enfermería.

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INTRODUCTION

Stress is understood as a psychophysiological process that involves both stressors and the way individuals interpret and respond to them^(1,3). According to the World Health Organization, 90% of the world's population suffers from stress, a problem that directly affects university students, with Brazil ranking 4th among countries where stress most affects daily life. In the academic context, especially in health courses such as Nursing, stress has become a growing concern, given its relationship with

the increase in mental disorders and its impact on student performance⁽³⁻⁴⁾. During their undergraduate studies, nursing students face multiple stressors, such as an excessive workload. According to the guidelines imposed by the Ministry of Education, a bachelor's degree in nursing must consist of 4,000 hours, including mandatory internships that must be equivalent to at least 50% of the total, that is, 600 hours, totaling 8 to 10 semesters depending on the institution⁽⁵⁾. In addition to the complementary hours required by the institution, which must total 180 hours by the end of the course⁽⁵⁾.

Other stress factors include fear of failure, insecurity in clinical practice, and personal challenges. These experiences can compromise their professional development, as well as their physical and mental well-being⁽⁴⁾. Understanding stress, as described by Hans Selye in the General Adaptation Syndrome Theory, allows us to identify its phases—alarm, resistance, and exhaustion—and understand how exposure time, intensity, and individual perception influence the response to the stressor. Ineffective adaptation to these demands can impair students' quality of life, also affecting their academic

productivity and mental health⁽¹⁾ (6-8)⁽¹⁾. Given this, it is essential to investigate how sociodemographic, academic, and professional factors correlate with the levels of stress experienced by nursing students⁽⁹⁾. This research proposes to analyze these variables in first- and fourth-year undergraduate students, characterizing the participants' profile and identifying the main domains of stress using the AEEE (Analysis of Stress in Nursing Students) instrument.

METHOD

This is a descriptive and analytical study with a quantitative approach, conducted at the FMABC University Center, located in the city of Santo André (SP), a private institution authorized by Federal Decree No. 76,850/1975. Data collection took place in May 2023 and May 2024. The population consisted of 159 students enrolled in the 1st and 4th years of the Nursing course, in the years 2023 and 2024, in the morning shift. The sample was non-probabilistic, for convenience, totaling 119 participants (64 from the 1st year and 55 from the 4th year). Students regularly enrolled in the mentioned periods were included, and those who did not agree to participate, did not sign the Free and Informed Consent Form (FICF), or were under 18 years of age were excluded. In order to meet the study objectives, sociodemographic, academic, and lifestyle data were collected from 1st- and

4th-year nursing students using an identification questionnaire, together with an instrument for assessing stress factors. The variables investigated were: Quantitative: age, number of dependents, family income, year of study, hours of daily study, time spent traveling to the institution, length of time in current job, number of cigarettes smoked per day, and weekly frequency of alcohol consumption. Qualitative: gender, marital status, ethnicity, religious belief, with whom they live, presence of pending subjects, interest in dropping out of the course and reason, smoking, alcohol consumption, paid work, position, and working hours. To measure stress levels, the Nursing Student Stress Assessment (AEEE) instrument, validated by Costa and Polak (2009), was used, consisting of 30 items distributed across six domains: practical activities, professional communication, time management, environment, professional training, and theoretical activity. The responses followed a 4-point Likert scale (0 to 3), with stress intensity categorized into quartiles: low, medium, high, and very high. The data were organized and analyzed using Stata 18.0 software. The statistical analysis included descriptive statistics (frequency, mean, median, standard deviation, minimum and maximum values) and inferential statistics. The parametric Student's t-test and ANOVA (with Bonferroni post-test) and the nonparametric Mann-Whitney and Kruskal-Wallis (with Dunn post-test) tests were used, in addition

to Spearman's correlation test. The level of significance adopted was 5% ($p \leq 0.05$). The study was approved by the Research Ethics Committee of the FMABC University Center, according to opinion No. 1,833,619 and CAAE No. 60567916.8.3001.0082.

RESULTS

The sample for this study consisted of 119 first- and fourth-year nursing students, with an average age of 23.21 years. The majority were female, single, without children, and living with their parents or friends. Regarding academic variables, students reported little study time and greater difficulty in professional communication. In addition, more than half said they had thought about dropping out of the course due to demotivation, exhaustion, and financial and academic difficulties. Among the stress factors, the most relevant domains varied according to the academic year. For first-year students in 2023, the domain "Time management" was the most stressful; in the fourth year of 2023, "Professional training" stood out; and in the fourth year of 2024, "Theoretical activity." Analyses of sociodemographic variables revealed that older students had higher levels of stress in the domains "Professional communication" and "Professional training." Female students also showed higher levels of stress related to "Professional training," while those with partners or children had higher stress in "Time management."

Table 1: Results of the Student's t-test and ANOVA between quantitative sociodemographic and academic variables and stress factors (Stress in Nursing Students - AEEE) of nursing students (N=119) in the 1st and 4th years of 2023 and 2024. Santo André, 2023 and 2024.

Quantitative variables	Travel time		Study time		Working time		Age	
	Me*/Md**	p	Me*/Md**	p	Me*/Md**	p	average	p
D1 - "Performance of practical activities"	9,23*	0,988	9,02*	0,168	9,33*	0,107	23,21	0,097
D2 - "Professional communication"	4,89*	0,844	7,00*	0,042*	4,37*	0,194	23,21	0,001*
D3 - "Time Management"	10,00**	0,470	10,00**	0,851	10,00**	0,963	23,21	0,247
D4 - "Environment"	4,00**	0,000*	3,00**	0,075	3,50**	0,493	23,21	0,480

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D 5 - "Professional Training"	10,00**	0,609	10,00**	0,014*	11,00**	0,229	23,21	0,004*
D6 - "Theoretical Activity"	9,89*	0,300	9,62*	0,035*	9,69*	0,789	23,21	0,150

Table 2: Results of the Student's t-test and ANOVA between academic and professional qualitative variables and stress factors (Stress in Nursing Students - AEEE) of nursing students (N=119). Santo André, 2023 and 2024.

Qualitative variables	Scholarship recipient		Thought about dropping out		Work		Position	
	Me*/Md**	p value	Me*/Md**	value of p	Me*/Md**	p value	Me*/Md**	p-value
D1 - "Performance of practical activities"	9,11*	0,103	9,15*	0,000*	9,15*	0,134	9,63*	0,064
D2 - "Professional communication"	4,73*	0,457	4,73*	0,000*	9,63*	0,064	5,19*	0,578
D3 - "Time management"	10,00**	0,869	11,00**	0,000*	10,00**	0,782	10,00**	0,119
D4 - "Environment"	3,50**	0,109	3,50**	0,098	3,50**	0,200	3,50**	0,163
D5 - "Vocational training"	10,00**	0,014	10,00**	0,004	10,00**	0,115	11,00**	0,144
D6 - "Theoretical Activity"	9,69*	0,604	9,73*	0,003	9,73*	0,933	9,88*	0,212

Table 3: Results of the Student's t-test and ANOVA between the quantitative sociodemographic and academic variables and stress factors (Stress in Nursing Students - AEEE) of nursing students (N=119) in the 1st and 4th grades of 2023 and 2024. Santo André, 2023 and 2024.

Quantitative variables	Travel time		Study time		Working time		Age	
	Me*/Md**	p	Me*/Md**	p	Me*/Md**	p	average	p
D1 - "Performance of practical activities"	9,23*	0,988	9,02*	0,168	9,33*	0,107	23,21	0,097
D2 - "Professional communication"	4,89*	0,844	7,00*	0,042*	4,37*	0,194	23,21	0,001*
D3 - "Time Management"	10,00**	0,470	10,00**	0,851	10,00**	0,963	23,21	0,247
D4 - "Environment"	4,00**	0,000*	3,00**	0,075	3,50**	0,493	23,21	0,480

Student's t-test and ANOVA; *p< 0.05 - statistically significant differences

DISCUSSION

The sample studied was predominantly female, reflecting the historical association of the profession with the caregiving role traditionally attributed to women. Despite this predominance, studies point to a significant increase in the presence of men in courses and, consequently, in the field of nursing⁽¹⁰⁾. A significant number of students were found to be combining their undergraduate studies with work activities, especially in the fourth year, which can lead to physical and emotional overload, as well as difficulties in time management⁽¹¹⁾. Most students reported studying between 5 and 7 hours per week, sug-

gesting that less dedication may affect self-confidence and interaction with the healthcare team, resulting in greater stress related to professional communication. More than half of the undergraduates said they had thought about dropping out of the course due to demotivation, exhaustion, and financial and academic difficulties. Studies indicate that the main reasons for dropping out of nursing courses are mostly "disappointment, demotivation, and frustration" resulting from the course not meeting initial expectations, in addition to the fact that many students are young and made an early career choice⁽¹³⁾. Those who considered dropping out of the course showed moderate levels of stress, especially in the areas of "time management" and "profes-

sional training," highlighting the importance of academic and emotional support throughout the degree program^(14,15). The correlation between students who have partners and/or children and greater difficulty in time management can be explained by the challenge of balancing personal and academic life⁽¹⁶⁾. The research data indicate that, as the course progresses, stress factors tend to be more related to the technical and professional demands of the training. Therefore, a high level of stress was observed in the "Professional training" domain among students, possibly due to greater pressure on performance and professional expectations⁽¹⁷⁾. In relation to professional training, a higher level of stress was identified among fourth-year students, a common char-

acteristic among young adults in the academic training and job market entry phase, who often feel insecure about the timetable and content offered, questioning whether these meet market requirements⁽¹⁷⁾.

CONCLUSION

This study investigated stress factors in 119 students, mostly women, aged between 18 and 49 years. The majority were single students with no dependents who lived with family or friends. In terms of academic profile, 58.12% were scholarship recipients and 52.10% were employed. Family income varied between years of study, being lowest among those who entered in 2023.

The analysis of sociodemographic variables in association with stress factors showed that age had a significant relationship with the domain “Professional communication.” In addition, female students showed average levels of stress in the domains “Practical activities,” “Theoretical activities,” “Professional communication,” “Time management,” and “Environment.”

The study reveals that stress factors among nursing students are directly related to academic demands and social roles, especially among women who juggle study, work, and personal responsibilities. Recognition of these conditions is essential to support institutional actions aimed at promoting student mental health

and improving teaching strategies in nursing. Thus, these findings contribute to reflection on the need for new pedagogical strategies that stimulate self-knowledge and strengthen coping skills.

As a suggestion, it is recommended that higher education institutions invest in programs that provide support, listening, and academic guidance. For the academic community, this research reinforces the importance of expanding multicenter investigations that address the relationship between stress, performance, and course retention in order to foster healthier, more inclusive, and humanized learning environments.

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