

Perception and impact of stressors on undergraduate nursing students

Percepción e impacto de los estresores en estudiantes universitarios de enfermería

Percepção e repercussão dos fatores estressores em discentes do curso de graduação em enfermagem

Carlos Vinícios dos Reis Affonso^{1*}

ORCID: 0009-0005-7655-9307

**Damaris de Oliveira Gomes
Rezende¹**

ORCID: 0009-0000-2650-8185

**Wenderson Domingos Peixoto
da Silva¹**

ORCID: 0000-0001-6864-6455

Milena Maria da Silva Acioli¹

ORCID: 0000-0002-4558-8333

Camila de Sousa Martins Isaias¹

ORCID: 0009-0003-9108-6670

Gabriel Nivaldo Brito

Constantino¹

ORCID: 0000-0002-9129-1776

Taiane de Oliveira Brito¹

ORCID: 0000-0001-7175-5003

Bruna Porath Azevedo

Fassarella¹

ORCID: 0000-0002-1400-4147

Keila do Carmo Neves¹

ORCID: 0000-0001-6164-1336

Wanderson Alves Ribeiro¹

ORCID: 0000-0001-8655-3789

¹Universidade Iguçu. Rio de Janeiro, Brazil.

How to cite this article:

Affonso CVR, Rezende DOG, Silva WDP, Acioli MMS, Isaias CSM, Constantino GNB, Brito TO, Fassarella BPA, Neves KC, Ribeiro WA. Perception and impact of stressors on undergraduate nursing students. Glob Acad Nurs. 2025;6(4):e523. <https://dx.doi.org/10.5935/2675-5602.20200523>

***Corresponding author:**

cv9673135@gmail.com

Submission: 11-30-2025

Approval: 12-16-2025

Abstract

Stress is widely recognized as one of the ills of modern life, frequently associated with physical and psychological symptoms resulting from daily pressures. These symptoms can be intensified during academic training, especially in courses that demand high cognitive skills, agility, and willingness from students. The main objective of this study is to analyze stress factors in the university environment and their repercussions on the lives of nursing students. Methodologically, this is a descriptive exploratory study, using a mixed-methods approach and field research as a data source. The project was submitted to the Research Ethics Committee, obtaining approval under number 6.457.127. The participants are undergraduate nursing students. Data collection will occur entirely through the Google Forms platform, with the link being widely disseminated on social networks related to the course and in communication groups through mobile applications. This methodology aims to ensure the accessibility and representativeness of the collected data, providing a comprehensive view of the students' experience in relation to stress.

Descriptors: Nursing; Emotional Stress; Higher Education; Mental Health; Professional Training.

Resumen

El estrés es ampliamente reconocido como uno de los males de la vida moderna, frecuentemente asociado con síntomas físicos y psicológicos derivados de las presiones diarias. Estos síntomas pueden intensificarse durante la formación académica, especialmente en cursos que exigen altas habilidades cognitivas, agilidad y disposición por parte de los estudiantes. El objetivo principal de este estudio es analizar los factores de estrés en el entorno universitario y sus repercusiones en la vida de los estudiantes de enfermería. Metodológicamente, se trata de un estudio exploratorio descriptivo, con un enfoque de métodos mixtos y una investigación de campo como fuente de datos. El proyecto se presentó al Comité de Ética de la Investigación, obteniendo la aprobación con el número 6.457.127. Los participantes son estudiantes de enfermería de grado. La recopilación de datos se realizará íntegramente a través de la plataforma Google Forms, y el enlace se difundirá ampliamente en las redes sociales relacionadas con el curso y en grupos de comunicación a través de aplicaciones móviles. Esta metodología busca garantizar la accesibilidad y representatividad de los datos recopilados, proporcionando una visión integral de la experiencia de los estudiantes en relación con el estrés.

Descriptorios: Enfermería; Estrés Emocional; Educación Superior; Salud Mental; Formación Profesional.

Resumo

O estresse é amplamente reconhecido como um dos males da vida moderna, frequentemente associado a sintomas físicos e psicológicos resultantes das pressões diárias. Esses sintomas podem ser intensificados durante a formação acadêmica, especialmente em cursos que exigem habilidades cognitivas elevadas, agilidade e disposição dos estudantes. O presente estudo tem como objetivo principal analisar os fatores de estresse no ambiente universitário e suas repercussões na vida dos alunos de enfermagem. Metodologicamente, trata-se de um estudo exploratório descriptivo, utilizando uma abordagem mista e pesquisa de campo como fonte de dados. O projeto foi submetido ao Comitê de Ética em Pesquisa, obtendo aprovação sob o número 6.457.127. Os participantes são acadêmicos do curso de graduação em enfermagem. A coleta de dados vai ocorrer inteiramente através da plataforma *Google Forms*, com o *link* sendo amplamente divulgado nas redes sociais relacionadas ao curso e em grupos de comunicação por meio de aplicativos móveis. Essa metodologia visa garantir a acessibilidade e a representatividade dos dados coletados, proporcionando uma visão abrangente sobre a experiência dos estudantes em relação ao estresse.

Descriptorios: Enfermagem; Estresse Emocional; Ensino Superior; Saúde Mental; Formação Profissional.



Introduction

Stress is widely recognized as one of the major problems of modern life, frequently used to describe physical and psychological symptoms triggered by daily pressures and demands for adaptation. This phenomenon is particularly relevant in the context of academic nursing training, marked by intense demands, high workloads, and constant pressure for performance. These factors directly influence the mental health of students, compromising their well-being and their ability to assimilate theoretical and practical content essential to their professional training¹⁻⁴.

In this sense, stress can be understood as a complex reaction of the organism to situations that exceed its coping capacity, involving psychological, physical, and hormonal responses. This response occurs when internal or external stimuli threaten homeostasis and trigger emotional and behavioral manifestations that affect the individual's daily life. In the university environment, such manifestations become even more pronounced due to the accumulation of activities, constant evaluations, and performance demands, reflecting a formative process that often intensifies feelings of anxiety and insecurity^{5,6}.

The academic journey presents specific and often recurring stressors throughout personal and professional development, including adaptation to university routine, clinical practice, and the construction of professional identity. These challenges impact the body and mind, potentially compromising the student's overall health and well-being. In the case of nursing courses, these stressors are exacerbated by direct contact with human suffering, demanding emotional and cognitive skills that are not always fully developed at the beginning of training. This scenario places the student in a constant state of alert, favoring the emergence of physical and psychological symptoms⁷.

Nursing students experience high levels of stress from the very beginning of their undergraduate studies, due to early exposure to complex and emotionally challenging clinical environments. Students face circumstances that demand rapid decision-making, responsibility for care, and technical expertise, factors that can intensify psycho-emotional strain throughout the course. This overload can compromise motivation, generate anxiety, and interfere with academic performance, even contributing to dropout rates^{8,9}.

Recent studies indicate that perceived stress in the university environment is influenced by competitiveness, pressure for results, and rigorous institutional demands, affecting sleep quality and increasing cardiovascular risks¹⁰. Research conducted in recent years reinforces this concern, highlighting that sleep deprivation intensifies stress, reduces concentration capacity, and impairs learning. These conditions affect not only academic performance but also the emotional balance and social relationships of students, constituting a public health problem in the educational environment¹¹⁻¹³.

Another relevant point concerns the need for effective coping strategies, fundamental to helping students deal with academic and clinical stressors. The development of emotional skills, self-care practices, and access to

psychological support are essential measures for promoting well-being and reducing the impacts of stress on daily academic life. Such strategies favor the development of more resilient professionals, prepared to act safely and humanely in highly complex contexts. Furthermore, it is recognized that academic overload, characterized by a large volume of assignments, reports, and assessments, can contribute to the intention to drop out of the course and compromise student retention^{14,15}.

The choice of this theme is justified by the need to understand how stress influences the training of future nurses and what the impacts are on their mental health and academic performance. In a society facing increasing challenges in health services, understanding academic stressors becomes essential to strengthening the training of professionals prepared to deal with complex and emotionally demanding situations¹⁶. Furthermore, the topic has social and professional impact, as it highlights the need for institutional policies to promote mental health, contributing to the training of more resilient, humanized nurses capable of providing comprehensive and qualified care to the population.

This study focused on students in the 1st, 9th, and 10th semesters of the Nursing undergraduate program, as these represent strategic stages of academic training: the beginning of the course, a time of adaptation and acquisition of theoretical foundations; the penultimate semester, characterized by the intensification of clinical practices; and the final semester, marked by completion and preparation for professional insertion. This selection allows for a deeper understanding of the perception and impact of stressors at different stages of the academic journey, enabling the identification of variations and specific needs at each stage. Given this scenario, it becomes fundamental to analyze how students experience and interpret these stressors throughout their training. Thus, this study establishes as its general objective to analyze the stressors present in the university environment and their repercussions on the lives of undergraduate nursing students. To achieve this goal, two specific objectives are defined: to identify the main stress-generating factors that permeate the formative experience and to describe the students' perceptions of the impacts of these stressors on their academic, emotional, and social lives.

Methodology

This study was characterized as exploratory and descriptive research, conducted in the field, using a mixed-methods approach and primary data to understand the applicability of nursing theories in undergraduate internships. The mixed-methods approach allowed for the integration of quantitative and qualitative data, broadening the understanding of students' experiences, as advocated by other authors^{17,18}. This methodological choice also aligns with Lakatos' understanding¹⁹, for whom exploratory studies enable the formulation of problems and careful analysis of the phenomenon, and in line with Minayo's position²⁰, which highlights the importance of delimiting the object of study, defining objectives, and using appropriate instruments. The



field research was developed in the real-world setting of student training, allowing for the observation of interactions, perceptions, and behaviors as described by Leopardi²¹ and ensuring that the information collected reflected the students' concrete experiences during their academic journey.

The investigation complied with Resolution No. 466/2012 of the National Health Council, adhering to the ethical principles of autonomy, beneficence, non-maleficence, justice, and equity²². The project was approved by the Research Ethics Committee of Iguazu University, under opinion number 6.457.127. Student participation was contingent upon signing the Informed Consent Form, made available electronically via Google Forms, ensuring voluntariness, confidentiality, privacy, and the right to withdraw. Measures to protect identity were adopted, including the use of fictitious names to avoid any form of stigmatization.

The empirical field comprised Iguazu University (UNIG), Campus 1, a private institution in the Baixada Fluminense region recognized by the MEC (Brazilian Ministry of Education) since 1993, which provided the necessary infrastructure and institutional support for the research. Participants were students regularly enrolled in the nursing course who were undertaking their internship, a criterion established to guarantee practical experiences compatible with the object of investigation. Students who were not in this stage were excluded, ensuring uniformity in the experience analyzed.

Data collection was carried out using an electronic questionnaire composed of sociodemographic information and the Lipp Stress Symptom Inventory for Adults, an

instrument validated in Brazil and widely used in the scientific literature²³. The open-ended questions allowed for a deeper understanding of stress-generating factors, coping strategies, and repercussions on academic life. The use of Google Forms facilitated student access and broadened the scope of the study, encouraging participation from diverse backgrounds.

The data were organized and processed according to the principles of integrated analysis. Qualitative narratives were transcribed, identified with pseudonyms, and analyzed using free-flowing reading, categorization, and interpretation, in accordance with guidelines²⁴ and an epistemological proposal²⁵ that values experiences, lived experiences, and social meanings attributed by the participants. Quantitative data were described using frequencies and percentages, complementing the qualitative analysis and allowing the identification of relevant patterns in the set of responses.

Results and Discussion

The study included 89 students from technical and undergraduate nursing courses, distributed across different academic years and professional profiles. The sociodemographic characterization of the sample allowed for the identification of relevant aspects of the investigated group, fundamental for understanding the stress factors experienced in the academic context. The data were organized, encompassing variables, enabling a comprehensive view of the conditions that permeate the lives of these students and supporting the analysis of the repercussions of the university environment on their well-being.

Chart 1. Sociodemographic characteristics of the students participating in the study. Nova Iguaçu, RJ, Brazil, 2025

Variable	Categories	Frequency (N)	Percentage (%)
Sex	Female	80	89.9%
	Male	9	10.1%
Age range	18–20 years old	22	24.2%
	21–30 years old	49	54.8%
	31–40 years old	12	13.2%
	>40 years old	6	6.6%
Marital status	Single	44	49.5%
	Married	34	37.9%
	Divorced	11	12.6%
Current profession	Nursing Technician	57	64.0%
	Other professions	32	36.0%

Analysis of the participants' profiles reveals that most students are female, representing 89.9% of the sample. This predominance follows the historical trend of the feminization of nursing, showing that male presence is still a minority in the profession. This characteristic can directly influence experiences in the academic environment, since gender dynamics can produce distinct perceptions of stress, emotional burden, and coping mechanisms. Furthermore, the greater female representation reinforces the importance of understanding factors related to the accumulation of social roles, often more intense among women, which can exacerbate psychological distress during training.

Regarding the distribution by academic year, it is observed that 45.3% of participants are in their first year, followed by 33.7% in their ninth year and 21.1% in their tenth year. This data reveals the significant presence of students at the beginning of their studies, a phase marked by insecurities, adaptation to academic demands, and unfamiliarity with university routines, factors frequently associated with stress. Among those in their final year, the challenges relate to supervised internships, exposure to clinical practice, and the demands of graduation, which intensify emotional overload. Thus, different stages of education produce distinct sources of suffering, reinforcing



the need for continuous support strategies throughout the academic journey. The age range analysis shows a predominance in young people between 21 and 30 years old, who make up more than 76% of the participants. This stage of life coincides with the transition to adulthood, involving challenges such as financial independence, professional development, and self-imposed pressure regarding academic performance. These elements, combined with the inherent pressures of health-related courses, can trigger high levels of stress. Furthermore, the presence of participants between 41 and 60 years old is observed, a group that may experience additional demands such as family and professional responsibilities, increasing vulnerability to emotional burnout, and difficulties in balancing multiple roles.

Regarding marital status, the majority are single (49.5%), followed by 37.9% who are married and 7.4% who are divorced. These conditions directly interfere with how students organize their routines and cope with stressful situations. Single people may show greater dedication to their studies, but they are also more susceptible to isolation and academic loneliness. Married and divorced individuals may face additional challenges in balancing studies, work, and family responsibilities, creating scenarios conducive to the development of mental exhaustion. Thus, the data reinforces that academic stress cannot be analyzed in isolation from the social reality of students.

In this sense, regarding profession, it is observed that 64% are nursing technicians, 13.7% are students, and 18.9% perform other work activities. The accumulation of professional practice and academic training is a widely recognized factor in the literature as a trigger for stress, especially when associated with long working hours, caregiving pressure, and direct contact with situations of human suffering. For these students, the course may represent not only a qualification step but also an additional challenge in time management and mental health. Thus, the data shows that the stress factors experienced by the participants are multidimensional and cross personal,

Perception and impact of stressors on undergraduate nursing students
academic, and work-related aspects, reinforcing the relevance of the study to support practices that promote student well-being.

Academic, organizational, and socioeconomic factors associated with stress in nursing students

The category developed below addresses the academic, organizational, and socioeconomic factors that contribute to stress among undergraduate nursing students. This analysis allows us to understand how multiple simultaneous demands, associated with curricular requirements, emotional overload, and living conditions, interfere with the physical and psychological well-being of students. The interpretation of quantitative data, complemented by participants' statements, makes it possible to identify patterns of suffering that permeate the university routine, highlighting the impacts of time pressure, high workload, and limitations of financial resources. This analytical approach deepens the understanding of the vulnerabilities that emerge in the formative process and reinforces the importance of institutional strategies aimed at coping with academic stress.

The discussion also considers the students' subjective experience, revealed in their perceptions of the challenges faced in the daily life of the course. Among the collected statements, some reported that they frequently must choose between resting or completing overdue assignments, while others highlighted the difficulty of dealing with short deadlines and multiple assessment demands. One student stated that "in certain weeks it seems like every professor decides to schedule work at the same time," while another commented that "we arrive tired from the internship and still have to rush to catch up on university assignments." Financial concerns that exacerbate stress were also mentioned, as reported by someone who said that "sometimes I can't buy the internship materials because I don't have enough money," demonstrating how economic factors negatively influence the academic journey.

Chart 2. Factors contributing to academic stress among nursing students. Nova Iguaçu, RJ, Brazil, 2025

Factors identified	N	%
Proximity to assignment deadlines	44	46.3
Financial difficulties	39	41.1
Excessive workload	34	35.8
Lack of time for leisure and personal life	31	32.6
Internship or residency program	18	18.9
Relationship with classmates	13	13.7
Relationship with professors	8	8.4

The following are the accounts of the participants who, as recorded in the study's data spreadsheet, answered the questions corresponding to this thematic category. To ensure organization and maintain confidentiality, each student was identified by the initials S (student) followed by the dialogue number, allowing visualization of the diversity of perceptions without exposing any personal information. This systematization made it possible to highlight a set of experiences related to academic stress, emphasizing how

the demands of education influence the well-being and performance of students.

"When deadlines all come at once, I feel like I can't breathe properly because of all the pressure" (S3; S11; S22).

"After a shift at my internship, having to hand in work on the same day is emotionally devastating" (S12; S19; S37).



"There are weeks when I spend all my money on transportation and materials, and that greatly increases my stress" (S18; S25; S46).

"The workload is so heavy that sometimes I can't even sleep properly to recover from the exhaustion" (S27; S33; S58).

"The lack of leisure time makes me feel isolated, as if my life consists only of studying and working" (S34; S42; S69).

"I get anxious when I realize I'm behind on my assignments because my internship takes up so much of my time" (S41; S53; S61).

"When there is conflict or competition within a group, the atmosphere becomes tense, and stress levels rise significantly" (S56; S64; S72).

"My relationship with some teachers makes me tense, because sometimes I don't know if I can ask for help" (S63; S71; S80).

"Financial difficulties accompany me every month, and this impacts everything, even my motivation to continue the course" (S74; S79; S87).

The data presented demonstrate that the proximity of deadlines for submitting assignments was the most frequently cited factor, indicating that academic pressure and the concentration of work in short periods directly impact the emotional health of students. This finding is consistent with recent research that identifies cognitive overload and time management as central elements in academic stress in nursing²⁶. The literature suggests that accumulated deadlines and simultaneous demands reduce organizational capacity and increase feelings of inadequacy in the face of curricular requirements²⁷.

Financial difficulties, reported by 41.1 percent of participants, reinforce the debate about socioeconomic vulnerability in higher education in health. National studies demonstrate that financial instability compromises academic performance, increases dropout rates, and intensifies symptoms of anxiety and stress, especially among students who need to balance study and work. Economic insecurity directly affects the university routine, generating delays, difficulties in accessing materials, and less emotional availability for academic activities^{28,29}.

The excessive workload, cited by 35.8 percent of students, is related to the intensive nature of nursing education, which integrates theoretical activities, practical work, and internships. Recent research indicates that the high number of hours dedicated to the course can cause fatigue, low energy, and feelings of exhaustion, characteristics frequently associated with academic stress and student burnout. The accumulation of tasks throughout the semester intensifies this feeling, especially when there are no institutional spaces for support or flexibility³⁰.

The lack of time for leisure and personal life, mentioned by 32.6 percent of participants, highlights difficulties in maintaining a balance between academic life and well-being. The literature reinforces that leisure plays a protective role against mental illness and that its absence increases irritability, anxiety, and feelings of isolation. This

limitation also interferes with the construction of support networks, which are fundamental for emotional regulation and for coping with the daily pressures of undergraduate studies³¹.

The internship or residency experience, cited by 18.9 percent, involves specific challenges, such as contact with suffering, fear of making mistakes, and increasing responsibilities. Recent research shows that this phase, while essential for professional development, raises stress levels due to constant exposure to complex situations in healthcare practice. Technical and emotional insecurity, especially in hospital settings, makes students more vulnerable to psychological stress³².

Relationships with classmates, mentioned by 13.7 percent of students, also influence the academic climate and interfere with emotional well-being. Studies indicate that conflicts, competitiveness, and communication difficulties negatively affect the university experience and reduce the sense of belonging, a protective factor against stress. Weakened interpersonal relationships can generate feelings of demotivation and compromise collective performance in practical and theoretical activities³³. The relationship with professors, mentioned by 8.4 percent of participants, although less frequent, deserves attention. The literature indicates that authoritarian teaching practices, inadequate communication, or lack of academic support contribute to increased university stress. Healthy teaching relationships, on the other hand, increase self-confidence, promote meaningful learning, and help in the construction of professional identity³⁴.

In general, the set of factors presented reveals a multifactorial landscape of stress that spans academic, personal, social, and economic dimensions. Recent research indicates that stress in nursing education results from complex interactions between curricular demands and students' living conditions, and that institutional interventions are essential to mitigate its effects³⁵. The implementation of psycho-pedagogical support programs, curricular flexibility strategies, and actions to promote mental health emerges as an urgent need in the university context.

Aspects of the university environment associated with academic stress

The data presented in this category originates from the question that investigated which elements of the university environment contribute most significantly to student stress. From the 95 responses collected, it was possible to identify structural, pedagogical, organizational, and psychosocial factors with a direct impact on the academic experience. This stage of the analysis seeks to highlight how institutional conditions and educational practices influence student mental health, and understanding these manifestations is essential to support proposals for improvement in the context of health education.



Chart 3. Aspects of the university environment that contribute to academic stress. Nova Iguaçu, RJ, Brazil, 2025

Aspects of the university environment	N	%
Inadequate infrastructure (classrooms, laboratories, libraries)	7	7.4
Undynamic teaching methods	26	27.4
Excessive workload	27	28.4
Lack of psychological/academic support	39	41.1
Lack of institutional organization (schedules, timetables, etc.)	47	49.5

In this category, the students' statements, identified by the letter A followed by the dialogue number, offer an overview of perceptions related to insufficient infrastructure, undynamic teaching methods, excessive workload, lack of institutional support, and organizational failures. The organization of these responses allowed for the identification of patterns of emotional burnout and difficulties in adapting to the university environment, highlighting tensions that permeate daily routines and impact well-being. These qualitative accounts strengthen the interpretation of the numerical data, allowing for a broader understanding of the multiple institutional elements that produce stress.

"Disorganized schedules and last-minute changes make everything much harder to keep track of" (S12; S45).

"The heavy workload makes me feel constantly behind schedule and exhausted" (S3).

"The heavy workload makes me feel constantly behind schedule and exhausted" (S8; S76).

"The teaching methods are tiring and repetitive, which makes everything more stressful" (S29).

"When classes suddenly change rooms, I lose focus and become even more anxious" (S51; S84).

"I feel we are always overwhelmed by the extensive schedule" (S17; S63).

"There is not enough support to deal with the emotional demands of the course" (S41).

"Some teachers use undynamic methods, and this only increases discouragement" (S6).

"The lack of adequate spaces to study hinders my performance" (S57).

"It's very difficult to stay organized when everything changes via last-minute email" (S14; S79).

"The workload is too demanding, there's no time left to rest" (S1).

"When we lack academic support, everything feels heavier and lonelier" (S28; S66).

The results demonstrate that a lack of institutional organization was the most frequently cited aspect, with 49.5 percent of students indicating this item. Recent studies confirm that unstable schedules, inefficient communication, and sudden changes in activities undermine academic predictability and increase the risk of stress, especially in health-related courses characterized by high-intensity demands. Predictability is a central element for emotional management, and its absence triggers a feeling of loss of

control, as research with nursing and medical students indicates^{36,37}.

The lack of psychological or academic support, indicated by 41.1 percent of participants, reflects a problem widely recognized in the literature. Higher education institutions that do not offer structured support tend to have higher rates of anxiety, emotional exhaustion, and mental illness among their students³⁸. Recent research shows that psycho-pedagogical support services significantly reduce stress levels and improve academic engagement, and are considered essential strategies for student retention³⁹.

Undynamic teaching methods, cited by 27.4 percent of students, also stand out as a significant factor. Studies indicate that traditional methodologies centered on oral presentations promote cognitive fatigue and reduce student engagement, negatively impacting learning and well-being⁴⁰. The literature suggests that more participatory and active approaches, such as problem-based learning and hybrid methodologies, contribute to reducing stress by promoting greater control and autonomy over the learning process⁴¹. Excessive workload, cited by 28.4 percent of participants, aligns with evidence showing that health science courses frequently exceed the limits considered healthy for a balance between academic and personal life. Research indicates that prolonged work hours lead to exhaustion, decreased performance, and increased vulnerability to burnout. The literature from 2024 reinforces that curricular reorganization and workload reduction should be priority institutional goals⁴². Inadequate infrastructure was mentioned by a smaller percentage (7.4 percent), but no less important. Problems related to a lack of adequate classrooms, deficient laboratories, and poorly structured libraries directly affect academic performance and increase stress, especially in institutions with many students. Although it is the least cited item, the literature indicates that the quality of the physical environment strongly influences motivation and emotional well-being⁴³.

In general, the findings in this category reveal a scenario in which multiple institutional elements act as sources of stress, interacting and reinforcing each other. Brazilian and international research converges in affirming that pedagogical, structural, and organizational conditions play a decisive role in university mental health. These factors should not be interpreted in isolation, but as parts of an ecosystem that influences the academic experience⁴⁴.

Student accounts reinforce the idea that this is not just about individual issues, but about structural conditions that need review by university management. The literature indicates that institutional strategies for welcoming new students, curricular restructuring, improved internal communication, and the creation of permanent emotional

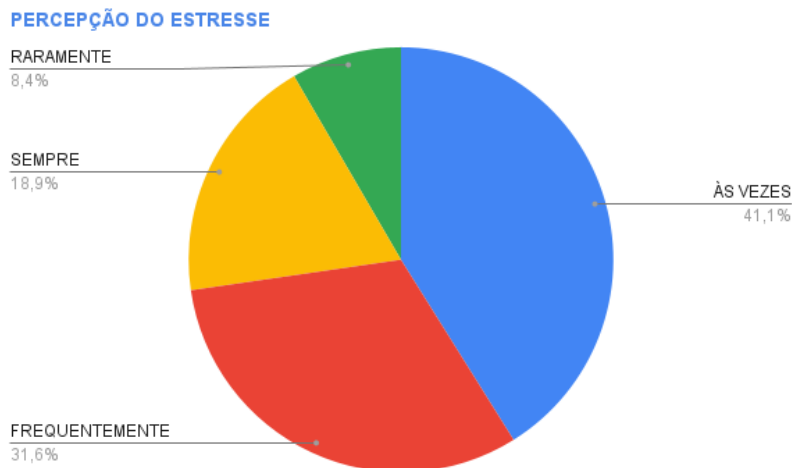


Signs, symptoms, and repercussions of stressors in nursing students

This category encompasses the physical, emotional, and behavioral manifestations of stress perceived by students, including anxiety, fatigue, insomnia, changes in academic performance, and impacts on mental and social health, highlighting how academic, organizational, socioeconomic, and environmental factors influence the well-being and quality of life of students.

support policies are fundamental to reducing stress in health education⁴⁵. Thus, the analysis of this category shows that the stress Academic success is not solely a product of curricular demands, but also of how the university environment is organized. The results reflect the urgent need for institutional strategies that address not only educational requirements but also the mental health of students, promoting more balanced, predictable, and humane learning conditions.

Graph 1. Perception of stressors in nursing students. Nova Iguaçu, RJ, Brazil, 2025



Note: Raramente: Rarely. Sempre: Always. Frequentemente: Often. Às vezes: Sometimes.

In recent years, scientific literature has shown an increase in stress levels among students in educational institutions, indicating that this phenomenon is recurrent in the academic context. Epidemiological studies demonstrate the perception and repercussions of stress throughout the university journey, associated with demands, requirements, deadlines, academic activities, and evaluation processes⁴⁶.

The stress perception graph shows that 41.1% of participants report feeling stressed "sometimes," indicating that, although present, stress is not yet continuous for most of these students. This intermediate classification may suggest variations according to periods of greater academic demand, such as exams and assignments, reflecting typical fluctuations in the university routine. In this context, the presence of stress is consistent with findings that suggest situational variation according to the academic calendar, intensifying during periods of greater pressure⁴⁶.

Next, it is observed that 31.6% report frequently experiencing stress. This data raises an alarm, as it reveals that almost a third of students live with habitual stress, which can lead to the chronification of the symptoms observed in the previous graphs. The recurrence of this emotional state tends to negatively impact motivation, academic engagement, and even the physical health of students. These results corroborate the literature, which highlights the importance of systematic monitoring and the implementation of institutional care strategies aimed at preventing mental illness among university students, as pointed out by the study⁴⁷. Finally, 18.9% claim to feel stressed "always," making up the most vulnerable group. Constantly remaining in this state suggests emotional

exhaustion, a risk of burnout, and significant harm to overall well-being. Only 8.4% reported feeling stressed rarely, representing a minority with greater emotional balance or a greater capacity to cope with academic pressures.

The second graph shows a marked predominance of insomnia, reported by 60% of the students, suggesting a strong impact of stress on sleep patterns. Insomnia is a symptom directly related to mental overload, and can compromise concentration, memory, and academic performance. Its prevalence indicates a state of constant tension among the participants, possibly aggravated by exhausting study routines and extracurricular activities. These conditions of poor sleep compromise attention, memory, and academic performance, reinforcing the bidirectional relationship between psychological stress and sleep disorders⁴⁸.

Other relevant symptoms were extreme changes in appetite (27%) and excessive gas (22%), signs commonly associated with psychosomatic changes. These data highlight how stress transcends the emotional realm and manifests in the body, especially in the gastrointestinal system, reinforcing the understanding that emotional tension can manifest in significant physiological signs. In line with the literature, these symptoms may indicate alterations in the hypothalamic-pituitary-adrenal axis and in neurovegetative systems, frequently activated in states of prolonged stress. These effects corroborate clinical reports of the impacts of stress on the body beyond the emotional level⁴⁹.

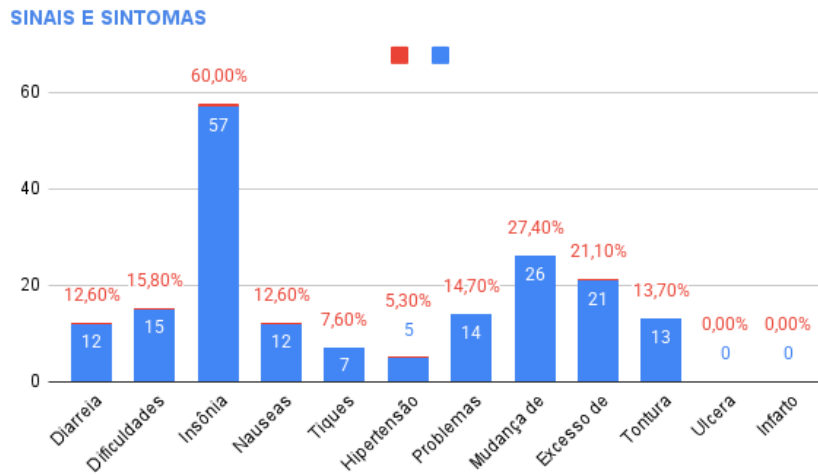
Furthermore, symptoms such as frequent dizziness, dermatitis, nausea, and tachycardia appeared in significant



percentages (between 12% and 15%). Although less prevalent than insomnia, they represent important manifestations of prolonged stress. The diversity of

symptoms reinforces the multifactorial nature of stress, affecting different systems of the body and requiring attention to the overall health of these students.

Graph 2. Signs and symptoms of stressors in nursing students. Nova Iguaçu, RJ, Brazil, 2025



Note: Diarreia: Diarrhea. Dificuldades: Difficulties. Insônia: Insomnia. Náuseas: Nausea. Tiques: Tics. Hipertensão: Hypertension. Problemas na atenção, memória e desempenho acadêmico: Problems with attention, memory, and academic performance. Mudança extrema de apetite: Extreme change in appetite. Tontura: Dizziness. Úlcera: Ulcer. Infarto: Heart attack.

Excessive worry was found to be the most prevalent symptom, mentioned by 70.5% of respondents. This finding indicates a state of cognitive hyperalertness and negative anticipation, frequently related to academic anxiety. The persistence of this worry pattern tends to compromise decision-making processes, emotional regulation, and motivation for academic activities, negatively impacting psychological well-being and classroom performance. In this sense, the literature points out that the effects of stress extend beyond the physical realm, associating excessive worry with a continuous state of cognitive hyperalertness, with direct repercussions on decision-making, emotional balance, and academic motivation, as described by a study⁴⁷. This persistent worry, typical of academic anxiety, is often correlated with greater difficulty concentrating and a feeling of being overwhelmed, elements that contribute to maintaining or worsening perceived stress.

Another relevant finding is the desire to escape routine, present in 36.8% of students, who point to emotional saturation as an adaptive response to continuous overload. This response symbolically translates to emotional saturation in the face of responsibilities and may represent the beginning of burnout. Many students develop avoidance mechanisms, including a desire for withdrawal, as an attempt to restore emotional balance in the face of intense academic demands. This response can be seen as part of a spectrum of stress reactions, ranging from irritability to emotional hypersensitivity and reduced interest in previously pleasurable activities⁴⁸.

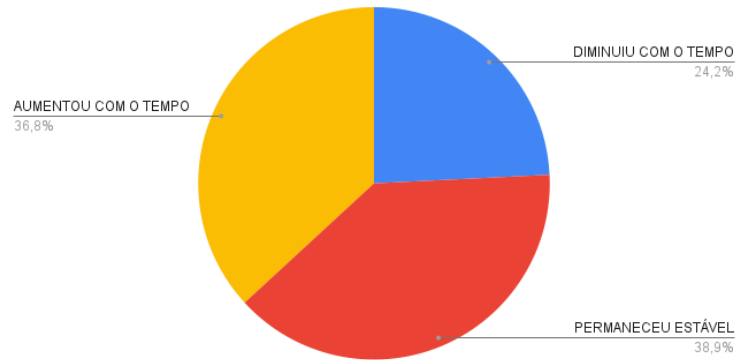
Regarding the progression of stress throughout the semesters, longitudinal and cross-sectional studies suggest that, as students advance in their courses, the theoretical, practical, and professional demands increase, which can raise perceived pressures. Furthermore, symptoms such as

irritability, anxiety, loss of interest in previously enjoyable activities, and hypersensitivity demonstrate that students experience profound emotional impacts. Percentages between 18% and 32% reveal that a large part of the sample presents conditions consistent with moderate to intense psychological distress. These results reinforce the urgency of institutional actions aimed at promoting mental health⁴⁷.

The graph shows that a significant portion of participants reported an increase in stress levels throughout the semesters, corresponding to approximately 40% of the responses. This result reinforces the understanding that academic progression is associated with an intensification of the pressures experienced by students, especially in the face of increased theoretical and practical demands and preparation for professional practice. Longitudinal and cross-sectional studies indicate that, as students advance in their courses, academic and professional demands become more complex, increasing the perception of stress, as described by researchers⁴⁷. On the other hand, approximately 36% indicated that stress remained stable throughout the course. This data may represent students who developed effective coping strategies or who have structured support networks, allowing for emotional balance even in the face of increasing demands. Stability may also signal a resilient profile, capable of dealing with academic adversities without significant variation in emotional discomfort. The minority, approximately 24%, reported a decrease in stress over time. This finding may reflect the natural adaptation process, in which the student becomes familiar with the university environment and academic routines. This group possibly developed mechanisms for emotional self-regulation, greater mastery of activities, and better personal organization, indicating a positive trajectory of maturation throughout the semesters.



PERCEPÇÃO DO ESTRESSE



Note: Aumentou com o tempo: It increased over time. Diminuiu com o tempo: It decreased over time. Permaneceu estável: It remained stable.

Finally, the body of evidence highlights the need for institutional interventions aimed at promoting mental health, including educational programs on stress management, sleep hygiene, and psychosocial support, as a way to prevent the chronicity of symptoms and promote better quality of life and academic performance. Recent studies emphasize that integrated interventions can reduce the negative effects of prolonged stress, improving both cognitive processes and behavioral indicators in university students.

Conclusion

This study revealed that academic stress among students in the 1st, 9th, and 10th semesters of the Nursing undergraduate program is multifactorial, being mainly associated with the high workload of academic activities, the curricular organization, and the socioeconomic conditions of the students. It was observed that the excessive volume of content, the short deadlines for submitting assignments, and the constant performance demands significantly impact the university routine, especially in the initial and final periods of the undergraduate program, marked, respectively, by the adaptation process to higher education and the intensification of responsibilities related to professional training. Analysis of the university environment demonstrated that factors such as the institution's physical structure, the academic support offered, and the quality of interpersonal relationships directly influence students' academic experience, acting both as protective elements and as aggravating factors for stress. Organized, welcoming environments with adequate institutional support proved favorable to students' emotional balance, while scarcity of resources, insufficient pedagogical guidance, and excessive

competitiveness contributed to increased perceived pressure. Regarding the signs, symptoms, and repercussions of stressors, significant impacts on students' physical, emotional, and behavioral health were identified. Notable manifestations include fatigue, sleep disorders, anxiety, irritability, and reduced academic performance, highlighting impairments in both educational performance and overall well-being. These findings reinforce the importance of continuous monitoring of these indicators in order to understand the relationship between perceived stress and its consequences in the context of university life. A comparison between different periods of undergraduate studies revealed significant variations in the perception of stress and its repercussions, according to the stage of the course. First-year students showed greater difficulty adapting to the university environment and high levels of initial anxiety; ninth-year students faced challenges related to clinical practice, intense workload, and balancing academic and personal activities; while tenth-year students demonstrated greater concern about entering the job market and future professional responsibilities. These results highlight the need for specific and targeted strategies for each phase of the educational journey. In this context, the relevance of implementing institutional policies and educational actions aimed at promoting mental health and strengthening academic support for nursing students is emphasized. The adoption of strategies that consider academic, organizational, socioeconomic, and environmental aspects, combined with the early identification of stress signs, can contribute to the training of more resilient, prepared professionals with a better quality of life, both during their undergraduate studies and in their professional practice.

References

1. Santana LL, Lima RS, Souza JM, Oliveira FA, Silva PR. Estresse no cotidiano de graduandos de enfermagem de um instituto federal de ensino. *Rev Enferm Cent-Oeste Mineiro*. 2018;8:e2508. DOI: <https://doi.org/10.19175/recom.v8i0.2508>
2. Costa CRB, Costa JB, Silva RM, Florêncio RS, Vieira LF, Bezerra TA. Estresse entre estudantes de graduação em enfermagem: associação de características sociodemográficas e acadêmicas. *Saúde Pesq*. 2018;11(3):475-82. DOI: <https://doi.org/10.17765/2176-9206.2018v11n3p475-482>



3. Silva DA, Oliveira EB, Santos MIP, Gomes AMT. Estresse e graduação em enfermagem: um estudo com estudantes-trabalhadores. *Res Soc Dev.* 2021;10(7):e36810716584. DOI: <https://doi.org/10.33448/rsd-v10i7.16584>
4. Pereira PR, Alves SB, Souza MC. Fatores estressantes em acadêmicos de enfermagem de uma instituição privada de João Pessoa-PB. *Rev Ciênc Saúde Nova Esperança.* 2023;21(3):304-17. DOI: <https://doi.org/10.17695/revcsnevol21n3p304-317>
5. Yosetake AL, Raulino MEFG, Castro LS. Estresse percebido em graduandos de enfermagem. *SMAD Rev Eletrônica Saúde Mental Álcool Drogas.* 2018;14(2):117-24. DOI: <https://doi.org/10.11606/issn.1806-6976.smad.2018.000389>
6. Hirsch CD, Barlem ELD, Almeida LKD, Tomaszewski-Barlem JG, Figueira AB, Lunardi VL. Fatores percebidos pelos acadêmicos de enfermagem como desencadeadores do estresse no ambiente formativo. *Texto Contexto Enferm.* 2018;27:e1900016. DOI: <https://doi.org/10.1590/0104-07072018001900016>
7. Mendes SS, Martino MMF. Fatores de estresse em estudantes do último ano da graduação em enfermagem. *Rev Esc Enferm USP.* 2020;54:e03540. DOI: <https://doi.org/10.1590/S1980-220X2018030403540>
8. Luz RJJ, Azevedo EB, Martinho AC. Estresse em acadêmicos de enfermagem: importância de identificar o agente estressor. *Braz J Health Rev.* 2019;2(2):1086-94. DOI: <https://doi.org/10.34119/bjhrv2n2-058>
9. Schultz CC, Ribeiro JLP, Gomes GC. A resiliência e a redução do estresse ocupacional na enfermagem. *Rev Latino-Am Enfermagem.* 2022;30:e3594. DOI: <https://doi.org/10.1590/1518-8345.5816.3594>
10. Demenech LM, Oliveira AP, Neiva-Silva L, Paludo SS. Estresse percebido entre estudantes de graduação: fatores associados e possíveis consequências sobre a saúde. *J Bras Psiquiatr.* 2023;72(1):19-28. DOI: <https://doi.org/10.1590/0047-2085000000394>
11. Santos AT, Correia DS, Lima JS. Qualidade do sono e fatores de risco cardiovascular em acadêmicos de enfermagem: estudo transversal. *Rev Enferm UFSM.* 2024;14:e20. DOI: <https://doi.org/10.5902/2179769286275>
12. Santos RWV, Barros AR, Queiroz MVS. A saúde mental dos estudantes de graduação em ciências da saúde: revisão integrativa. *Obs Econ Latinoam.* 2024;22(6):e5121. DOI: <https://doi.org/10.55905/oelv22n6-204>
13. Silva Vieira MDF, Soares MJG, Benevides RMCP. Níveis de estresse e estratégias de coping em estudantes de enfermagem no contexto pandêmico. *Rev Eletr Acervo Saúde.* 2024;24(10):e18559. DOI: <https://doi.org/10.25248/reas.e18559.2024>
14. Barbosa JS, De Vasconcelos EMR. Estresse, fatores associados e coping entre estudantes do ensino médio: à luz de Betty Neuman. *Rev Enferm Atual In Derme.* 2024;98(2):e024310. DOI: <https://doi.org/10.31011/reaid-2024-v.98-n.2-art.2431>
15. Silva KKM, Morais FRR. Estresse e qualidade do sono em alunos de graduação em enfermagem. *Rev Bras Enferm.* 2020;73:e20190250. DOI: <https://doi.org/10.1590/0034-7167-2019-0250>
16. Oliveira FN, Matos CF, Vieira DS. Docência e saúde emocional discente no ensino superior. *Rev Docência Ensino Super.* 2025;13:1-18.
17. Creswell JW. Projeto de pesquisa: métodos qualitativos, quantitativos e misto. Porto Alegre: Artmed; 2007.
18. Creswell JW, Clark VLP. Pesquisas de métodos misto – Série métodos de pesquisa. 2. ed. Porto Alegre: Penso; 2013.
19. Lakatos EM. Metodologia científica. São Paulo: Atlas; 1991.
20. Minayo MCS. O desafio do conhecimento: pesquisa qualitativa em saúde. São Paulo: Hucitec; 2004.
21. Leopardi MT. Metodologia da pesquisa em saúde. Florianópolis: UFSC; 2001.
22. Brasil. Ministério da Saúde. Conselho Nacional de Saúde. Resolução nº 466, de 12 de dezembro de 2012. Diretrizes e normas regulamentadoras de pesquisas envolvendo seres humanos. *Diário Oficial da União.* 13 jun 2013.
23. Lipp MEN, Guevara AJH. Validação empírica do Inventário de Sintomas de Stress (ISS). *Estud Psicol.* 1994;11(3):43-9. DOI: <https://doi.org/10.1590/S1413-294X1994000300005>
24. Polit DF, Beck CT, Hungler BP. Fundamentos de pesquisa em enfermagem: métodos, avaliação e utilização. Porto Alegre: Artmed; 2001.
25. Minayo MCS. Construção da identidade da antropologia na área de saúde: o caso brasileiro. In: Minayo MCS, Coimbra Jr CEA, organizadores. *Antropologia da saúde: traçando identidade e explorando fronteiras.* Rio de Janeiro: Relume Dumará; 1998. p. 29-46.
26. Ramos PV, Silva CB, Lima GS, Batista J, Marcondes L. Demandas acadêmicas e saúde mental na graduação em enfermagem. *Rev Latino-Am Enfermagem.* 2024;32:e3944.
27. Silva FM, Borges LP, Almeida RS. Sobrecarga acadêmica e estresse em estudantes de enfermagem. *Rev Enferm Atual.* 2025;103:55-63.
28. Almeida LM, Castro RS. Condições socioeconômicas e sofrimento psicológico entre universitários da área da saúde. *Rev Bras Educ Méd.* 2024;48(2):113-22. DOI: <https://doi.org/10.1590/1981-5271v48.2.2023-0123>
29. Ribeiro MS, Oliveira AP, Santos TR, Silva FM. Vulnerabilidade socioeconômica e saúde mental de estudantes universitários. *Ciênc Saúde Coletiva.* 2025;30(5):2103-14.
30. Fernandes PR, Nascimento HL, Lopes MJ. Fatores associados ao burnout em estudantes de enfermagem. *Esc Anna Nery.* 2023;27(1):e20230045. DOI: <https://doi.org/10.1590/2177-9465-EAN-2023-0045>
31. Souza RP, Martins VAL. Lazer, autocuidado e bem-estar emocional entre estudantes universitários. *J Nurs Health.* 2024;14:e20240220. DOI: <https://doi.org/10.15210/jonah.v14i0.20240220>
32. Pereira CA, Mendes SS, Schultz CC, Raulino MEFG. Estresse e enfrentamento no estágio supervisionado em enfermagem. *Texto Contexto Enferm.* 2025;34:e20250018. DOI: <https://doi.org/10.1590/1980-265X-TCE-2025-0018>
33. Barbosa GF, Teles MAC. Relações interpessoais e saúde mental entre estudantes universitários. *Saúde Debate.* 2024;48(136):450-62. DOI: <https://doi.org/10.1590/0103-1104202413601>
34. Matos CF, Vieira DS, Cunha AL. Docência e saúde emocional discente no ensino Superior. *Rev Docência Ensino Super.* 2023;13:1-18.
35. Santos TR, Oliveira FM, Lima JRF. Fatores associados ao estresse na formação em enfermagem. *Rev Gaúcha Enferm.* 2025;46:e20240112. DOI: <https://doi.org/10.1590/1983-1447.2025.20240112>
36. Oliveira FN, Braga CL, Santos MA. Organização institucional e estresse acadêmico: desafios na formação em saúde. *Rev Saúde Foco.* 2023;10(1):122-35. DOI: <https://doi.org/10.12819/2023.10.1.7>
37. Pacheco AR, Lima VC, Soares MA. Previsibilidade acadêmica e sofrimento psíquico: estudo com estudantes da área da saúde. *Interface (Botucatu).* 2024;28:e240193. DOI: <https://doi.org/10.1590/interface.240193>
38. Martins CR, Ribeiro BA. Saúde mental e sofrimento psíquico em universitários de enfermagem: estudo transversal. *Psicol Pesq.* 2022;16(2):45-57. DOI: <https://doi.org/10.34019/1982-1247.2022.v16.34789>



39. Costa RL, Vale MS, Arruda JF. Apoio psicopedagógico e saúde mental de estudantes da área da saúde: impactos e desafios. *Rev Bras Orient Prof.* 2025;26(1):59-70. DOI: <https://doi.org/10.26707/1984-7270/2025v26n1p59>
40. Figueiredo AP, Lima DS. Metodologias ativas no ensino superior e seus efeitos sobre a motivação discente. *Rev Ibero-Am Estud Educ.* 2021;16(3):1550-68. DOI: <https://doi.org/10.21723/riiae.v16i3.15289>
41. Torres HP, Fernandes AL. Aprendizagem baseada em problemas como estratégia para redução do estresse discente. *Rev Ensino Saúde.* 2023;4(2):89-101. DOI: <https://doi.org/10.21680/2447-3944.2023v4n2ID34567>
42. Nascimento TA, Prado JF, Dantas MO. Sobrecarga acadêmica e burnout em estudantes da saúde: evidências recentes. *Rev Bras Educ Méd.* 2024;48(4):1-12. DOI: <https://doi.org/10.1590/1981-5271v48.4.2023-0456>
43. Barros MA, Cunha PR. Infraestrutura universitária e impacto no desempenho acadêmico: uma análise em instituições públicas brasileiras. *Rev Educ Soc.* 2020;41(4):1-18. DOI: <https://doi.org/10.1590/ES.239541>
44. Silva TG, Monteiro AF. Ambientes educacionais e saúde mental no ensino superior: revisão sistemática. *Cad Saúde Colet.* 2025;33:1-12.
45. Gomes LA, Cavalcante MS, Reis RA. Estratégias institucionais para redução do estresse acadêmico em cursos da saúde: revisão integrativa. *Rev Enferm UFSM.* 2023;13:e19. DOI: <https://doi.org/10.5902/2179769273214>
46. Cardoso JV, Gomes CFM, Junior RJP, Silva DA. Estresse em estudantes universitários: uma abordagem epidemiológica. *Rev Enferm UFPE on line.* 2019;13:e242520. DOI: <https://doi.org/10.5205/1981-8963.2019.242520>
47. Domênicis ACRL, Mello NTS, Santos BP, Santos CF. O Estresse em Estudantes Universitários: Um Estudo Realizado em Acadêmicos de Medicina. *Arq Ciênc Saúde UNIPAR.* 2025;29(1):322-37.
48. Jones AP, Smith BC, Johnson DE, Williams EF. A Systematic Review and Meta-Analysis of Poor Sleep, Insomnia Symptoms and Stress in Undergraduate Students. *Sleep Med Rev.* 2021;61:101565. DOI: <https://doi.org/10.1016/j.smr.2021.101565>
49. Mello NTS, Domênicis ACRL, Mateus AO, Meneses AMD. Estresse acadêmico e transtorno de compulsão alimentar em estudantes de medicina durante a pandemia do coronavírus. *Rev Med (São Paulo).* 2024;103(6):e20240123. DOI: <https://doi.org/10.11606/issn.1679-9836.v103i6e-20240123>

