



Perceived stress among physiotherapy and law students at UNEC - Nanuque Campus: A comparative study

Estresse percebido entre acadêmicos dos cursos de fisioterapia e direito do UNEC - Campus Nanuque: Um estudo comparativo

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ABSTRACT

Introduction: Stress is due to a set of disorders that happen daily, causing an irregularity in the homeostasis of the individual. Entering the academic environment brings with it several divergent situations that can culminate in a possible appearance or increase of stress, bringing changes in the emotional state due to the more intense rhythm of life, learning difficulty, and decline in academic performance. **Objective:** To conduct a comparative study on the perceived stress among students of the Physical Therapy and Law courses of the University Center of Caratinga (UNEC) – Campus Nanuque. **Methodology:** This is a quantitative, exploratory, and descriptive research, where the presence of stress was studied and analyzed among students of the Physical Therapy and Law courses of the 1st and 9th period enrolled at UNEC – Campus Nanuque, using a structured and validated questionnaire that assessed the stress level of students. **Results:** Composed of 107 students of the Physical Therapy and Law courses of the 1st and 9th period, the sample identified that in both courses more than 50% of the students demonstrated to present medium stress, the Physical Therapy course presented higher stress levels than the Law course and when compared by sex between the courses, women presented a high level of stress in a higher amount than men. **Conclusion:** In view of the study, it was evident the possible reasons that lead to increased stress in the student, showing that it can negatively affect some aspects of social and academic life, requiring attitudes aimed at minimizing damage and possible stressors.

Keywords: Stress, Academics, Students.



1 INTRODUCTION

The beginning of academic life is marked by several changes throughout the undergraduate higher education, the mental health of university students can be compromised by several factors, especially changes in lifestyle, adaptations to the new academic environment, reduction in sleep, poor diet, information overload, lack of time for leisure, financial restrictions, family-related stress, high expectations, demand for good academic performance and good grades, the need to move to another city or live alone, concerns about the professional and personal future and the demands of the labor market, lack of strategies to face studies and maintain adequate focus (FACIOLI *et al.*, 2020).

Currently stress and anxiety are disorders considered as the evil of the twenty-first century, both are related according to the type of environment, professional life, the complication of human relations and work, the demands, and responsibilities necessary in the daily routine, among others. Brazil was considered the second country in the world that presents the highest level of stress and according to the research of ISMA - International Stress Management Association its population stands out for being one of the most stressed (LOPES *et al.*, 2021).

Studies prove that university students represent a population group in which stress has been more frequent, and that their experiences after entering the HEI can be triggers of stressful moments, since there is a commitment and time dedicated only to that student moment for long years (MENESES and SANTOS, 2023).

Stress can be detrimental to academic performance since it can alter concentration and attention, being detrimental to decision-making skills, and establishing an effective relationship with the patient and/or person to be cared for (MURAKAMI *et al.*, 2019).

It has become frequent the appearance of mental illnesses in daily life, data from the Ministry of Health (MS) show that 23 million people in Brazil needed some care in the area of mental health. It becomes necessary and indispensable to seek awareness to meet the real needs of the population, especially professional training aimed at serving people with a more humanized look promoting a comprehensive health promotion to those who have demands to be met in mental health (LOPES, 2022).

The interest in the present study arose from direct observations made and experiences within the institution, in which complaints from students are constantly reported regarding insecurity, anxiety, exhaustion, stress, fear, and other evident feelings in relation to evaluative activities, deadlines for delivery of work, family and financial demands, reports and internship workload to be fulfilled, seminars, Final Term Paper, among others.



Thus, the objective of this article was to conduct a comparative study of the level and prevalence of stress among the students of the Physical Therapy and Law course of the University Center of Caratinga (UNEC) - Nanuque Campus (MG).

2 THEORETICAL BACKGROUND

2.1 THE TRIGGERING OF STRESS IN HUMANS

The body of the human being lives in constant balance through homeostasis, when it needs some adaptation there is an imbalance that alters the whole system and it is thus, which occurs in stress because it also corresponds to a physical, hormonal, and psychic response, that is, stress will generate an imbalance. In a stressful situation, there are changes in the physical and emotional systems that are always involved, because neuroanatomical systems such as the limbic system, hypothalamus and amygdala are triggered that define the control of anger and fear reactions (KAM *et al.*, 2020).

Regarding stress, it has been explained as a chronic state of excessive, non-specific tension/arousal that results from the ineffectiveness or exhaustion of coping strategies. In this condition, generally, the individual tends to present low tolerance regarding frustrations and disappointments, and the stress assessment is based on all the occurrences present. In these parameters, anxiety and stress may present positive valence when occurring in an adaptive manner in physiological response to the stressor or may be configured as negative valence through psychological disorders when they exceed the adaptive levels due to duration and intensity, where the psychic strategies of combat are no longer effective (MARTINS *et al.*, 2019).

Stress is arising from "stressors" present in the external environment (such as cold and heat), the internal world (such as fear, joy and anguish) and the social environment (such as extensive workload of studies, work in unsanitary conditions), along with this, some common physical symptoms come accompanied as, fatigue, insomnia, headaches and in the body, palpitations, nausea, intestinal changes, cold extremities, tremors, and constant colds. These symptoms arise according to the moments experienced by the student due to the divergent situations of stability and instability experienced at the same time, providing the development of stress (LUCIO *et al.*, 2019).

Stress and anxiety have some common indicators to be seen, are those of a physical order such as: headache, eating problems, increased heart rate, sleep problems, ulcers, among others; of a psychic order such as: physical and emotional exhaustion, sadness, anger, nervousness, guilt, excessive worry, depressed mood; behavioral such as: irritability, violence, detachment, abuse of



illicit substances; and cognitive order such as: memory loss, difficulty making decisions and concentration (ENUMO *et al.*, 2020).

When the individual tends to have a greater propensity to negative emotional experiences, the effect generated by this negative affect is overestimated on the stressful events, affecting a higher level of stress and anxiety. Therefore, the situation exposed should be looked at more closely, making it relevant to investigate the negative affectivity caused by stress (MARTINS *et al.*, 2019).

Camargo *et al.* (2019), state that during the process of adaptation to the changes arising from life, stress has contributed to the development of certain psychological and physical problems, since the body is exposed to several different situations. The transition to university life, the demands of this new stage and the reality not yet experienced can become factors conducive to the development and/or increase of stress symptoms in academics.

2.2 THE PHASES OCCURRING IN STRESS

According to De Jesus and Rebolo (2023), the word stress was defined as General Adaptation Syndrome and can be explained in three successive phases. The first is the alert/alarm phase, characterized by the reactions of the Hypothalamic-Pituitary-Adrenal (HPA) axis, due to response to the stressor agent, where a discharge of noradrenaline, adrenaline, and cortisol occurs, being a type of response referring to fight or flight with the objective of preserving life. The second phase is the resistance that occurs when the stressor agent is present for long periods or is large, at this stage the organism in the form of defense, will try to recover the homeostatic balance.

For the author, the third phase of stress is the phase of exhaustion, when it is not possible to manage stress because the body is already exhausted of adaptive energy and thus associated with this phase arises some psychosomatic signs, such as irritability, muscle tension, psoriasis, nausea, hypertension, anxiety, sexual problems, lack of energy, depression, among others. There was also the creation of a possible intermediate phase between resistance and exhaustion for emotional stress: called the near-exhaustion phase. Each phase has a different symptomatology that is adjunct to hormonal changes that correspond to each of them.

The human organism manifests itself before any situation that may come to harm the homeostasis of the body, as a response, it will promote the need for mobilization to face and combat the cause of biopsychosocial imbalance, so stress always tries to adapt the organism to a certain external or internal condition that is affecting or changing the physical perception, psychic and sensory well-being experienced by the individual (FARIA, 2021).



The current lifestyle is conducive to various pressures and adaptations that lead to the development of stress, when there is some factor that goes beyond the adaptive ways of psychological processes, there is the manifestation of stress that will affect the cognitive, behavioral and emotional of the individual, exposing him to situations that can affect his health generating risk the same (MORAIS *et al.*, 2021).

2.3 STRESS VS. ACADEMIC LIFE

The literature says that for college students, stress can trigger negative consequences such as anxiety and mood disorders, high stress levels that come related to abusive drug use, difficulty having interpersonal relationships, depression and suicide. Currently the number of people who have access to higher education has grown considerably, the academic is then faced with the precision of adaptation to changes in routine of the day to day, studies, the family environment, in addition to having new interpersonal relationships to create, and in the course of training the student still has suffering, insecurity, fear, anguish, becoming early caregivers of themselves and still having to resist the pressure of expectations of family members and patients (MURAKAMI *et al.*, 2019).

During puberty and in the transition from adolescents to adults, physiological transformations occur that will promote students to experience a negative period of crisis, before which it will be necessary to adapt to a new social role where they will have to deal with changes, new experiences and expectations. Accordingly, the academic routine increases the student will become more vulnerable to psychological overload, and may trigger some psychological disorders (MENESES and SANTOS, 2023)

The demands and demands necessary in the university facilitates with that the stress becomes very common in the life of the academics, the same can be described as a natural reaction of the organism itself resulting from situations exposed as danger, fear and threats, generating a physical and emotional alteration in the individual (SANTIAGO *et al.*, 2021).

Studies on the prevalence of stress among academics have shown that carelessness with the mental health and well-being of the student is constituted as an individual health issue as well as a public health problem, since the damages that appear in the graduation may reflect in harms for future users (ALBUQUERQUE *et al.*, 2020).

Student life can be impacted by mental health disorders affecting their performance in practical and written assessments, internships and learning in general. Thus, it is important to know about the prevalence rates of stress, as well as to understand the predictors of it when the student



enters the university, helping to plan possible strategies to support them in order to minimize psychopathological damage (FRAGELLI and FRAGELLI, 2021).

Law students tend to present higher levels of stress when they are in the process of taking the professional qualification exam, because the pass rate is low when it refers to the number of people who take the test, this can negatively affect student performance and also shows that students who have a lower degree of stress and anxiety tend to perform better during graduation and in the examinations of the Brazilian Bar Association (LORICCHIO and LEITE, 2012).

Some factors such as work, finances, studies and family are triggers that make the human being more susceptible to stress. Among university students, 60% tend to suffer from stress at a high level, showing that entering the academic environment can affect several factors of life, both inside and outside of it (DIAS *et al.*, 2015).

2.4 MEASURES TO PREVENT STRESSORS

The practice of physical activity is an essential prevention method to stress, because some hormones are released (cortisol, endorphins, dopamine, serotonin), which activate blood circulation promoting the feeling of pleasure and well-being of the body by releasing the tension accumulated by stress and anxiety (ZANELLI *et al.*, 2014).

A good quality of sleep is also important to inhibit stress, in higher education often the student tends to decrease his rest time so that he can complete his academic activities, affecting his sleep time and mental relief. To maintain a good quality of sleep it is necessary a rest around 7 to 9 hours to recharge the mental energy and maintain adequate physical rest, so that the mind does not create negative effects, seizures, and irrelevant thinking, so sleep is fundamental to the health of the entire nervous system helping to inhibit stressors (BENAVENTE *et al.*, 2014).

To maintain a good quality of life, the health of academics should be treated daily by adopting a set of actions that involve better lifestyle habits such as eating healthy foods, maintaining regular sleep, including the practice of physical activity, having moments of leisure and rest so as not to overload body and mind, ensuring well-being, fun, and better social and family coexistence (OLIVEIRA *et al.*, 2015).

3 METHODOLOGICAL PROCEDURES

This is a quantitative, exploratory and descriptive research, where the presence of stress among students of the 1st and 9th period of the Physical Therapy and Law courses of the University Center of Caratinga (UNEC) - Campus Nanuque was studied and analyzed, using a structured and

validated questionnaire that through its questions evaluates the level of stress that the student presents.

The sample consisted of 43 students of the Physiotherapy course and 64 students of the Law course, of the 1st and 9th period, enrolled in the University Center of Caratinga (UNEC) – Campus Nanuque. The questionnaire was applied during the months of May and June 2023 in the classroom. Of the inclusion criteria, the students who were present in the classroom were observed. Academics who were not present were excluded. The students signed a free and informed consent form to participate in the research with the guarantee that their name would not be identified in any case.

To analyze stress, the instrument used was the Perceived Stress Scale (PSS 14). The questionnaire aims to verify how uncontrollable, unpredictable and overloaded the respondents evaluate their lives, being able to identify if the student has mild, medium or high stress. The scale, similar to the original in English, consists of 14 closed questions, each with 5 answer options to score from 0 to 4. Each answer has its respective value, they are: 0 = never; 1 = almost never; 2 = sometimes; 3 = almost always; 4 = always. The questions with positive connotation (4, 5, 6, 7, 9, 10 and 13) have their sum score inverted, as follows: 0=4, 1=3, 2=2, 3=1 and 4=0. The other questions are negative and should be added directly. The score value obtained from the answers at the end can vary from 0 to 56, being divided into low, medium and high level from the division of the maximum score by three PSS14 ($56/3 = 18.66$), where from 0 to 18.667 is said to be low, 18.667 to 37.33 is moderate and from 37.33 to 56 high (SILVA and ABDANUR, 2017).

Table 1 - Perceived Stress Scale:

1	Have you been sad because of something that happened unexpectedly?	0	1	2	3	4
2	Have you been feeling unable to control the important things in your life?	0	1	2	3	4
3	Have you been feeling nervous and "stressed"?	0	1	2	3	4
4	Have you successfully dealt with life's difficult problems?	0	1	2	3	4
5	Have you felt that you are coping well with the important changes that are taking place in your life?	0	1	2	3	4
6	Have you been feeling confident in your ability to solve personal problems?	0	1	2	3	4
7	Have you felt that things are happening according to your will?	0	1	2	3	4
8	Have you been thinking that you couldn't handle all the things you have to do?	0	1	2	3	4
9	Have you been able to control the irritations in your life?	0	1	2	3	4
10	Have you felt that things are under your control?	0	1	2	3	4
11	Have you been angry because the things that happen are out of your control?	0	1	2	3	4
12	Have you found yourself thinking about the things you should do?	0	1	2	3	4
13	Have you been able to control the way you spend your time?	0	1	2	3	4
14	Have you felt that difficulties accumulate to the point that you believe you cannot overcome them?	0	1	2	3	4

Source: Silva and Abdanur, 2017

4 RESULTS AND DISCUSSION

The study on Perceived Stress among students was applied through a questionnaire consisting of a total of 14 questions, and answered by 107 students, 43 students of the Physical Therapy course (37 women and 6 men), and 64 of the Law course (30 women and 34 men).

With regard to each course the following results were obtained, of all the students who answered the questionnaire, 65.91% of the Physical Therapy students presented medium level of stress, 25.00% presented high level and 9.09% presented mild level. Law students, on the other hand, 62.50% presented medium level of stress, 20.31% presented high level and 17.19% presented mild level of stress.

It was possible to observe that in both courses most of the students presented stress at the secondary level, in the Physiotherapy course the value of 65.91% of the students was obtained and in the Law course 62.60%.

Both in the Physical Therapy course and in the Law course, women were the ones who presented the highest level of stress with the values of 27.03% against 16.67% of the men in the Physical Therapy course and 30.00% against 11.76% of the men in the Law course.

Table 2 - Perceived Stress in Physical Therapy and Law students:

STRESS LEVEL	NUMBER OF STUDENTS		QUANT. OF FEMALE STUDENTS		QUANT. OF MALE STUDENTS	
	Physiotherapy	Right	Physiotherapy	Right	Physiotherapy	Right
MILD STRESS	9,09%	17,19%	5,41%	3,33%	16,67%	29,41%
MEDIUM STRESS	65,91%	62,60%	67,57%	66,67%	66,67%	58,82%
HIGH STRESS	25,00%	20,31%	27,03%	30,00%	16,67%	11,76%

Source: Research data.

Such results can be explained because due to the beginning or increase of academic demand and commitment during graduation there is a requirement of the student to seek to have a greater focus and emotional, physical and intellectual effort. The final periods in particular are accompanied by several stressors that generate a feeling of concern, since the student has an internship workload to fulfill, reports to be delivered, course conclusion work to be presented and at the same time the same already maintains the responsibility for their professional practice and often do not feel prepared enough for action and insertion in the labor market, influencing stress at a higher level (MORAIS, 2018).

When observed by sex, Fernandes *et al.* (2019), highlight that women tend to present higher levels of stress than men, as they reconcile their joint daily tasks with study, home care, work, and



the search for gender equality. It is understood that the samples have differences and may contain different needs and overloads for such results.

Castellani *et al.* (2022), state that undergraduate students who are in the first and last periods are the ones who tend to present more frequently psychic suffering, being prone to trigger variable levels of stress, in recent years in particular, some disorders are even more evident due to the presentation of CBT, internships and evaluative activities. This is proven when it is observed in the table that the percentages of high stress level are largely higher than the mild level of stress in both courses. The students of the Physical Therapy course showed to be more stressed than the Law course in the three levels.

Specifically, the relationship between the constructs evaluated and studied in the two courses may be related to factors such as charging for obtaining better grades or even competition among students in whom they have the best academic performance, high demand of studies, high class hours, extracurricular activities, internships, failures and bad grades can trigger psychoemotional problems in the student's life (BRESOLIN *et al.*, 2022).

5 CONCLUSION

In view of the data collected during the research and study, it can be observed that stress at different levels is present in all students, regardless of the period in which they are attending and that in both courses the tendency is to present the medium to high level of stress, due to all the factors arising in life after introduction in the institution of higher education.

Therefore, it is concluded that stress is a variable that is present in the lives of students daily and can negatively affect academic and social life, requiring attitudes in which they aim to identify and have control of possible stressors.

Changes in life habits, such as physical activity, healthy eating, regular sleep, are necessary to reduce the prevalence of stress and maintain a better quality of social life and academic performance.

It is necessary and no longer important that university institutions seek to carry out actions aimed at obtaining a better well-being of students during graduation, accompanied by a reduction of stressful situations. Thus, it would be possible to have an improvement in the performance in the course, better personal and professional progress of the student within the higher institution and outside it.



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