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Student stress in a speech, language and hearing sciences undergraduate course

Estresse discente em um curso de Fonoaudiologia

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ABSTRACT

Objective: To verify the prevalence and factors associated with the presence of stress in students of a Speech, Language, and Hearing Sciences course. **Methods:** 105 students participated, over 18 years old, of both sexes, enrolled in the Speech, Language and Hearing Sciences course at a Federal University. Students who were not active during participation in the research were excluded. All respond to a sociodemographic questionnaire and Lipp's Stress Symptoms Inventory, which identifies the symptoms of stress, as well as their specific phase and the predominant symptoms. The data received statistical treatment being stipulated the significance level of 5%. **Results:** 77.1% showed results suggestive of stress, of which 77.7% were in the "resistance" phase, 18.5% in the "almost exhaustion"; 2.5% in the "alarm"; and 1.2% in the "exhaustion". As for the symptomatology, 64.2% had a predominance of psychological symptoms, 18.5% physical, and 17.3% physical and psychological. The statistical analysis showed a significantly higher presence of stress among women and among those who do not work, and a relationship between stress and the study year. **Conclusion:** A high number of Speech, Language and Hearing Sciences students with stress, was identified, with the "resistance" phase as the most frequent and the prevalence of psychological symptoms. The factors associated with stress were gender, which presented greater damages among women, the fact that students do not engage in paid work, and the year of the course they were enrolled. The first year had the lowest prevalence of stress, while the last year had the highest result.

Keywords: Stress physiological; Mental health; Health promotion; Education higher; Speech, Language and Hearing Sciences

RESUMO

Objetivo: verificar a prevalência de estresse e os fatores associados à sua presença em discentes de um curso de Fonoaudiologia. **Métodos:** participaram 105 discentes, maiores de 18 anos, de ambos os sexos, matriculados no curso de Fonoaudiologia de uma universidade federal. Foram excluídos os discentes que não estavam com a matrícula ativa durante o período da pesquisa. Todos responderam a um questionário sociodemográfico e ao Inventário de Sintomatologia de Stress de Lippi, que identifica os sintomas de estresse, bem como a sua respectiva fase e os sintomas predominantes. Os dados receberam tratamento estatístico, sendo estipulado o nível de significância de 5%. **Resultados:** dentre os participantes, 77,1% apresentaram resultados sugestivos de estresse, sendo que, destes, 77,7% estavam na fase de "resistência", 18,5% na fase de "quase exaustão"; 2,5% na fase de "alerta"; e 1,2% na fase de "exaustão". Quanto à sintomatologia 64,2% apresentaram predominância de sintomas psicológicos, 18,5%, físicos e 17,3%, físicos e psicológicos. A análise estatística mostrou a presença significativamente superior de estresse entre as mulheres e entre os que não trabalhavam e a relação do estresse com o ano de estudo. **Conclusão:** um elevado número de discentes de Fonoaudiologia foi identificado com estresse, sendo a fase de "resistência" a mais frequente, com prevalência de sintomas psicológicos. Os fatores associados ao estresse foram sexo, com maior prejuízo entre as mulheres, o fato de não exercerem atividade remunerada e o ano do curso em que estavam matriculados, sendo que no primeiro ano foi observada menor prevalência de estresse e no último ano, maior.

Palavras-chave: Estresse fisiológico; Saúde mental; Promoção da saúde; Educação superior; Fonoaudiologia

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INTRODUCTION

The term stress was used for the first time in the 17th century to describe a complex phenomenon composed of tension-anguish-discomfort[1]. Following a multidimensional panorama, stress can be described as a physiological and a psychological response triggered by a stressor stimulus that requires a weary effort for adaptation or tolerance[2]. The way of (re)acting to stress is related to factors moderators, which are personality, educational level, social conditions, among others[1,2].

The three-phase theory of General Adaptation Syndrome (GAS)[3] was reformulated[4] with the identification of another phase ("almost exhaustion"), making it a four-phase model ("alarm", "resistance", "almost exhaustion" stage, and "exhaustion"). The "alarm" stage, a positive phase of stress, is activated when the individual is confronted with a sudden critical situation, and there is a high production of adrenaline, which is essential for the survival of the species. The "resistance" stage is the attempt at physical and mental rebalancing, in which the organism changes its parameters of normality and concentrates the internal reaction in a specific target organ. If there is persistence in the exposure to the stressor, there may be a rupture in the individual's resistance, causing him to enter the "almost exhaustion" phase, starting the illness process. The "exhaustion" stage concerns excessive activities and high energy consumption, making it impossible for the individual to remain physically and psychologically well to perform daily activities[4].

A phase frequently associated with stress is Higher Education, mainly in students in the health area[5-9]. The admission to college causes several changes in routine, which have an impact on the quality of life and health, and the stressful events most often cited by university students are doubts in the course's choice, problems in social life, distance from family members, financial problems, and responsibility for vocational training[5,10,11].

All of these adversities can generate physiological responses, and if there is no adaptation to stressors, reactions from stress can be part of the life of university students[10,11], which compromises reasoning, memorization, and motivation in the learning process[5]. Considering the various implications of stress among university students and the relevance of the topic, the objective of this study was to verify the prevalence of stress and the factors associated with its presence in students of a Speech, Language, and Hearing Sciences course.

METHODS

This is a cross-sectional, quantitative, observational, and analytical study, following the current ethical recommendations (ordinance No. 3,377,652 of the Research Ethics Committee – REC – Federal University of Sergipe).

Speech, Language and Hearing Sciences students from a public university, of both sexes, who were actively enrolled during the research period (first semester of 2019) participated in it.

The sample consisted of 105 students, of whom 24 (22.9%) were male, and 81 (77.1%) were female. It presented a 95% reliability level and an error margin of less than 5%, considering a total of 204 active students in the course.

All of them answered questions about identification, sociodemographic profile, and the Lipp's Stress Symptoms Inventory for Adults (LSSI)[4], in a quiet, air-conditioned, and lightroom. The LSSI is self-administered and provides objective data regarding the presence and corresponding phase of stress and the predominance of symptoms.

As it is a sample with a normal distribution, the one-way Anova test was used to compare the number of students with stress in the four periods, followed by Tukey's Post Hoc test. For the association between qualitative results, the Chi-square test was used, with a significance level of 5%.

RESULTS

The vast majority of university students were female and did not have a paid job; education and training in high school presented balanced proportions, as well as receiving (or not) scholarships or university aid (Table 1).

The presence of stress was evidenced in 77.1% (81) of the students, with a prevalence of the "resistance" phase and psychological symptoms (Table 2).

The year of study affected the presence of stress ($F_{3,101} = 9.825$; $p < 0.01$), as did the difference between the first year and the remaining ones ($p < 0.01$ for all comparisons) (Figure 1).

Table 1. Profile of the students participating in the research by year of study

	Number of participants	Mean Age	Gender		High school education and training		Paid Work		University scholarship or grant	
		±SD	M	F	Public	Private	Yes	No	Yes	No
			n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
1st year	12 (11.4%)	20.7 ±8.1	4 (33.3%)	8 (66.7%)	7 (58.3%)	5 (41.7%)	2 (16.7%)	10 (83.3%)	3 (25%)	9 (75%)
2nd year	27 (25.7%)	22.4 ±7.7	6 (22.2%)	21 (77.8%)	14 (51.8%)	13 (48.1%)	4 (14.8%)	23 (85.2%)	15 (55.6%)	12 (44.4%)
3rd year	36 (34.3%)	22.1 ±6.7	8 (22.2%)	28 (77.8%)	17 (47.2%)	19 (52.8%)	3 (8.3%)	33 (91.7%)	19 (52.8%)	17 (47.2%)
4th year	30 (28.6%)	23.7 ±3.6	6 (20%)	24 (80%)	18 (60%)	12 (40%)	4 (13.3%)	26 (86.7%)	16 (53.3%)	14 (46.7%)
Total	105 (100%)	22.5 ±6.5	24 (22.9%)	81 (77.1%)	56 (53.3%)	49 (46.7%)	13 (12.4%)	92 (87.6%)	53 (49.5%)	52 (49.5%)

Descriptive analysis

Subtitle: n = number of participants; % = percentage; SD= standard deviation; M= male; F= female

Table 2. Stress profile of participating students

	With Stress	Stress Phase				Predominance of symptoms		
		Alarm Phase	Resistance Phase	Almost Exhaustion Phase	Exhaustion Phase	Physical	Psychological	Physical and Psychological
		n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
1st year	4 (33.3%)	0 (0%)	4 (100%)	0 (0%)	0 (0%)	1 (25%)	3 (75%)	0 (0%)
2nd year	24 (88.9%)	0 (0%)	18 (75%)	6 (25%)	0 (0%)	7 (29.2%)	13 (54.2%)	4 (16.7%)
3rd year	27 (75%)	1 (3.7%)	23 (85.2%)	3 (11.1%)	0 (0%)	4 (14.8%)	19 (70.4%)	4 (14.8%)
4th year	26 (86.7%)	1 (3.8%)	18 (69.2%)	6 (23.1%)	1 (3.8%)	3 (11.5%)	17 (65.4%)	6 (23.1%)

Descriptive analysis
Subtitle: n = number of participants; % = percentage

Table 3. Association between the presence of stress, gender, education and training in high school, engaging in a paid activity, and receiving scholarships and/or university aid

	Gender		High School Education and Training		Paid Activity		Scholarship or university aid	
	M	F	Public	Private	No	Yes	No	Yes
Without Stress	10 (41.7%)	14 (17.3%)	14 (25.9%)	10 (19.6%)	18 (19.6%)	6 (46.1%)	15 (28.9%)	9 (16.9%)
With Stress	14 (58.3%)	67 (82.7%)	40 (74.1%)	41 (80.4%)	74 (80.4%)	7 (53.9%)	37 (71.1%)	44 (83.1%)
p-value	0.01*		0.40		0.03**		0.10	

*significant values (p<0.05) according to the Chi-square test
Subtitle: M = male; F = female

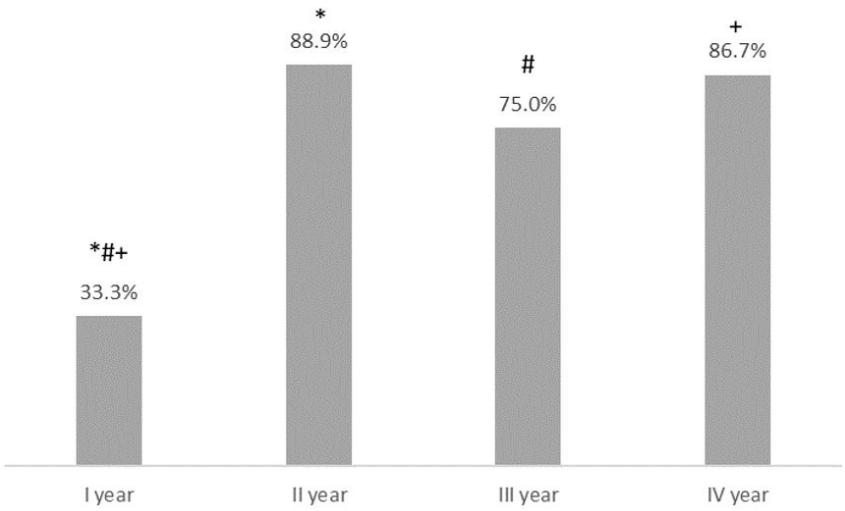

Figure 1. Influence of the year of study on the number of people with stress
New one-way test and Tukey's post hoc test; * significant values between the 1st and 2nd year (p-value <0.01); # between I and III (p-value <0.01) and + between I and IV (p-value <0.01)

The results indicated an association between stress and gender and not engaging in paid activities (Table 3).

DISCUSSION

The results of this study showed a high number of undergraduate students in Speech, Language, and Hearing Sciences with stress, with a higher prevalence than that found in other studies with university students in the health area[5-8] and a much higher rate when compared to students from other areas[1,12].

It is noteworthy that the questionnaires in this research were applied at the end of an academic semester, which may have influenced the higher levels of stress. We acknowledge that those levels could be different if the questionnaires were applied at the beginning of the semester, since the end of a semester is the period with a large concentration of tests and activities that need to be completed, therefore, with a greater incidence of stressful events.

Regarding the analysis of the stressful scenario in which the students were inserted, the "resistance" phase was predominant, followed by the "almost exhaustion" phase, as observed in similar studies[5-8]. The results also indicated that, overall, the investigated students displayed psychological techniques to deal with stress, a relationship that can be justified by the fact that the "resistance" phase is the phase of physical and mental rebalancing, with anxiety and social isolation as its main symptoms[13].

Regarding gender, stress was significantly higher among women, a finding similar to other studies[1,9,13] that considered that stressful events faced by university students of both sexes are the same. Also, the profile of this population does not indicate an overload of work and family care, suggesting that the difference in the level of stress can be of biological, cognitive, and behavioral origin, and even associated with social demands regarding women and parenting practices that generate higher levels of stress. These are factors that need to be better studied, and we emphasize that the sample of the present study was not balanced between the two genders, which may have biased the finding that women are pointed out as more stressed.

Another relevant finding of this research was the more significant presence of stress among students who did not work. In contrast, a study with students of a Medicine course[14] revealed greater stress among students who worked, justifying the fact that work, by itself, is an important source of stress. The difference may be related to a, generally lower, socioeconomic level of Speech, Language and Hearing Sciences students, indicating that financial difficulties are essential generators of stress during the course, even greater than conciliating work and study. However, the low frequency of people who engaged in paid activities may have interfered with the results.

As for which is the most stressful period during undergraduate courses, studies are controversial. In this study, enrollment in the first year was significantly less stressful when compared to other periods. Also, it was observed that the stress peaks were concentrated in the second and fourth years, which can be justified by the fact that it is in the second year of the course that the student comes into contact with specific subjects of speech therapy practice, bringing more responsibility, as well as the commitment to absorb theoretical content that will be essential for professional practice. In the fourth year, the higher prevalence of stress can be justified by the increase in commitments and responsibilities, with direct contact with patients in internships, the preparation of the undergraduate thesis, and the expectation regarding employability after graduation[7].

In contrast, in a study with Medicine students[7], the first years were considered more stressful due to the need to adapt to university life, the high number of theoretical courses, the responsibility to articulate the content with future clinical practices, and self-policing. This initial development suggests that, over time, students develop coping strategies in new academic situations[7].

The studies are unanimous regarding the diversity of factors that can trigger stress in university students, and since it was not the objective of the present study to verify the possible stressors and the actions to cope with stress used by the students, further research is needed to reach this goal.

The results observed, however, constitute an important achievement for Speech, Language and Hearing Sciences, as they indicate the need to rethink the education and training process, seeking permanent monitoring and the promotion of university actions aimed at promoting the health of students and a healthy academic environment beneficial to the mental health of this population and, consequently, to the quality of life of future speech therapists.

CONCLUSION

A high number of Speech, Language and Hearing Sciences students with stress, was identified, with the "resistance" phase as the most frequent and the prevalence of psychological symptoms. The factors associated with stress were gender, which presented greater damages among women, the fact that students do not engage in paid work, and the year of the course they were enrolled. The first year had the lowest prevalence of stress, while the last year had the highest result.

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