STRESS AND SOCIODEMOGRAPHIC CHARACTERISTICS OF UNDERGRADUATE NURSING STUDENTS

ESTRESSE E CARACTERÍSTICAS SOCIODEMOGRÁFICAS EM UNIVERSITÁRIOS DE ENFERMAGEM

ESTRÉS Y CARACTERÍSTICAS SOCIODEMOGRÁFICAS EN UNIVERSITARIOS DE ENFERMERÍA

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ABSTRACT

Objective: to evaluate the presence of stress and its association with the sociodemographic profile of undergraduate nursing students enrolled in the last year of the course. **Method:** quantitative, cross-sectional research with 32 nursing students in the last year of the course at a private educational institution. We used a form to collect sociodemographic information and the Stress Symptom Inventory for adults. The results were submitted to statistical analysis in the SPSS software version 17.0. **Results:** the majority (75%) of the students presented symptoms of stress in the resistance phase (56.3%) with a predominance of psychological symptoms (53%). Stress was associated with marital status and resistance phase. **Conclusion:** a significant number of undergraduate students are stressed. Stress was associated with the sociodemographic variable marital status and the resistance phase. It is relevant to note that the presence of stress found in this study is a cause of concern considering the health of these participants and their professional future. The present data contributes scientifically to the provision to support and highlights the need for arrangements for the prevention of stress-related health disorders in university nursing students. **Descriptors:** Psychological Stress; Physiological Stress; Nursing students; Nursing Education; Education; Learning.

RESUMO

Objetivo: avaliar a presença de estresse e sua associação com o perfil sociodemográfico em universitários de enfermagem do último ano. **Método:** estudo quantitativo, investigação de corte transversal com 32 universitários de enfermagem do último ano em uma instituição particular de ensino. Foram utilizados formulário de informações sociodemográficas e o Inventário de Sintomas de Stress para adultos. Os resultados foram submetidos à análise estatística por meio do programa SPSS versão 17.0. **Resultado:** a maioria (75%) dos universitários apresentou sintomas de estresse na fase de resistência (56,3%) com predomínio de sintomas psicológicos (53%). O estresse esteve associado à variável estado civil e à fase de resistência. **Conclusão:** número significativo de universitários está estressado. O estresse teve associação com a variável sociodemográfica estado civil e a fase de resistência. É relevante observar que a presença de estresse constatada neste estudo é preocupante considerando a saúde desses participantes e seu futuro profissional. Os dados contribuem cientificamente com o fornecimento de subsídios e destacam a necessidade de arranjos para a prevenção de agravos à saúde relacionados ao estresse em universitários de enfermagem. **Descritores:** Estresse Psicológico; Estresse Fisiológico; Estudantes de Enfermagem; Educação em Enfermagem; Educação; Aprendizagem.

RESUMEN

Objetivo: evaluar la presencia de estrés y su asociación con el perfil sociodemográfico en universitarios de enfermería del último año. **Método:** estudio cuantitativo, investigación de cohorte transversal con 32 universitarios de enfermería del último año en una institución particular de enseñanza. Fueron utilizados un formulario de informaciones sociodemográficas y el Inventario de Síntomas de Estrés para adultos. Los resultados fueron sometidos al análisis estadístico por medio del programa SPSS versión 17.0. **Resultado:** la mayoría (75%) de los universitarios presentó síntomas de estrés en la fase de resistencia (56,3%) con predominio de síntomas psicológicos (53%). El estrés estuvo asociado a la variable estado civil y a la fase de resistencia. **Conclusión:** número significativo de universitarios está estresado. El estrés tuvo asociación con la variable sociodemográfica estado civil y la fase de resistencia. Es relevante observar que la presencia de estrés constatada en este estudio es preocupante considerando la salud de esos participantes y su futuro profesional. Los datos contribuyen científicamente con el fornecimiento de subsidios y destacan la necesidad de arreglos para la prevención de problemas a la salud relacionados al estrés en universitarios de enfermería. **Descriptores:** Estrés Psicológico; Estrés Fisiológico; Estudiantes de Enfermería; Educación en Enfermería; Educación; Aprendizaje.

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INTRODUCTION

Stress has become increasingly common in everyday life mainly due to the activities arising from modernity. The first studies on stress were conducted by the physician and endocrinologist Hans Selye, who is considered an expert in this line of research, and who in 1936 introduced the term in the most different aspects of human life.¹

Changes caused by stress have been described in three phases. In this understanding, stress corresponds to a General Adaptation Syndrome (GAS) characterized by a set of non-specific responses: 1) alarm phase, characterized by acute manifestations; 2) resistance phase, as the acute manifestations disappear; and 3) exhaustion phase, when the reactions of the first phase return and there may be the collapse of the body.²

A study based on the cognitive-behavioral theory identified another phase of the stress process.³ This phase is between the resistance and exhaustion phases, and it was therefore called the near-exhaustion, characterized by a weakening of the person who is not able to adapt, or resisting the stressor when diseases begin to emerge, but they are not as severe as in the phase of exhaustion.⁴

Since then, it has been observed in the literature the effort of researchers to understand stress both in the general population and specifically in the work environment. It is highlighted, in this study, that the nursing profession is characterized by causing a high level of stress in professionals because it demands greater proximity with people, causing a greater affective involvement.⁵

Evidences suggest that stress can occur during the period of professional nursing training, because it is on this occasion that university students are have to face challenging situations that influence the teaching-learning processes and especially their health conditions.⁵⁻⁶

When undergraduate nursing students start academic life, they undergo several crises, experiencing diverse feelings. These include the creation of a new cycle of friendships, adaptation to new schedules and routines, financial problems, worries about the labor market, separation from the family, and encounter with pain, suffering, illness and death.⁷⁻⁸ Such situations require a strong adaptation effort, and this, in turn, may contribute to the development of stress.

The essential characteristics of the course, whose professional training emphasizes patient care, mean that during this period, the student-nurse-patient relationship is often driven by intense emotional stimuli. The last year of the course stands out as a enhancer of stress, in view of the transition and preoccupations of the academic life to the working life, as the course is about to be completed.⁹⁻¹¹

Stress symptoms in undergraduate nursing students are responses of the body's adaptations to pressure, making it prone to the incidence of clinical problems.¹² At high levels, students may present anxiety, irritability, feeling of physical exhaustion, decreased attention, and depression.¹³ It is important therefore that the stressors be identified in order to minimize possible health losses among university students.¹⁴

Although epidemiological studies have assessed the presence of stress in university students,¹²⁻³ there is still little evidence of this health impairment in the Brazilian context, especially in nursing students. Considering also the population of the last year of the nursing course, which is close to the job market, and in view of the fact that they are university students of a private teaching institution, the need of further exploration of the theme is evident.

OBJECTIVE

- To evaluate the presence of stress and its association with the sociodemographic profile of undergraduate nursing students of the last year.

METHOD

This is a cross-sectional quantitative study developed with 32 nursing students of the last year, of a private institution of higher education, in the city of Araçatuba, northwest of the state of São Paulo. The Nursing course is taught at night and has internship activities developed during the daytime period.

The total number of undergraduate students enrolled in the last year of the course in 2016 was 35. From this sample, three (8.6%) students did not accept to participate in the study. At the end, 32 (91.4%) students were part of the sample.

Undergraduate students were selected according to the following pre-established eligibility criteria: to be regularly enrolled in the last year of the nursing course and to be present in the classroom at the time of the collective application of the instrument. The exclusion criteria were: to be absent in the

classroom after three attempts of data collection on different days, or exempted for any reason.

The instruments used were the following: (1) Form for collection of sociodemographic information (sex, marital status, city of origin, work link, practice of physical activities, alcohol use, leisure, health problems); (2) Stress Symptom Inventory for adults (ISS).

The ISS is an inventory composed of three tables that address the four phases of stress: alert (phase 1, with 15 items): if 7 or more symptoms are indicated in the last 24 hours, this points to the alarm phase; resistance/near-exhaustion (phase 2 and phase 3, with 15 items): if 4 to 9 symptoms are indicated, this points to the resistance phase, and if 10 to 15 symptoms are indicated, this points to the near-exhaustion phase; finally, exhaustion (phase 4, with 22 items): if 9 symptoms are indicated in the last month.¹⁵

The application of the questionnaire was done through prior scheduling and authorization of the responsible teacher, so as not to interfere with the planned actions. The time taken to complete the instrument was approximately 20 minutes.

RESULTS

The undergraduate students were predominantly of the female sex (93.7%), and had a mean age of 25.9 years (Sd = 5.8).

With respect to stress, the majority of the participants were classified with symptoms of stress (75%), with predominance of the

After collecting the questionnaires, data were tabulated and stored in a spreadsheet (Microsoft Excel). The results were submitted to statistical analyses using the *Statistical Package for the Social Science* (SPSS) program for Windows version 17.0. Descriptive statistics were used for calculations of frequency, mean and standard deviation. The Chi-square and Fisher's exact tests were applied to evaluate the association between sociodemographic variables and stress. All statistical tests were performed with 5% of significance ($p < 0.05$).

The study followed the norms and ethical procedures proposed in Resolution 466/2012 of the National Council of Ethics in Research involving human beings. The project was approved by the Research Ethics Committee of the Salesian Auxilium Catholic University Center, under the n°. 14,673,389 (CAAE: 54071016.0.0000.5379), with authorization from the management of the institution involved in the study. All participants were informed about the purpose, research procedures, rights and possible risks, and signed the Informed Consent Form.

resistance phase (56.3%). As for the manifestations of symptoms of those who presented stress, there was a predominance of psychological symptoms (53%) as observed in Table 1.

Table 1. Distribution of undergraduate nursing students regarding the phases and types of stress symptoms. Araçatuba (SP), Brazil, 2016

Stress stages	N	%
No symptoms	8	25.0
Resistance phase	18	56.3
Near-exhaustion	5	15.6
Exhaustion	1	3.0
Total	32	100
Types of symptoms		
No symptoms	8	25.0
Physical symptoms	6	19.0
Psychological symptoms	17	53.0
Physical/psychological symptoms	1	3.0
Total	32	100

We observed that the socio-demographic variable that presented a statistically

significant association with stress was marital status according to Table 2.

Table 2. Relationship between sociodemographic characteristics and stress symptoms among undergraduate nursing university students. Araçatuba (SP), Brazil, 2016.

Demographic variables		Without symptoms stress		With symptoms of stress		p-value
		N	%	N	%	
Sex	Male	0	0.0	2	8.3	0.980
	Female	8	100.0	22	91.7	
Marital status	Single	8	100.0	14	58.3	0.035*
	Married	0	0.0	10	41.4	
Resides at the study site	Yes	2	25.0	7	29.1	0.681
	No	6	75.0	17	70.8	
Paid activity	Yes	3	37.5	12	42.8	0.680
	No	5	62.5	16	66.6	
Alcoholic beverages	Yes	0	0.0	4	17.3	0.303
	No	8	100.0	19	82.6	
Leisure activity	Yes	8	100.0	24	100	0.950
	No	0	0.0	0	0.0	
Health problems	Yes	1	12.5	8	33.3	0.385
	No	7	87.5	16	66.6	
Use of medicines	Yes	7	87.5	13	54.2	0.100
	No	1	12.5	11	45.8	

* Fisher's Exact Test (*p ≤ 0.05).

The presence of stress symptoms was higher in participants who were classified in the resistance phase with statistically significant associations when compared to

those who did not present symptoms, according to Table 3.

Table 3. Stress stages among nursing students. Araçatuba (SP), Brazil, 2016.

Stress phases	No symptoms of stress		With stress symptoms		P-value
	N	%	N	%	
Absence	8	100.0	0	0.0	<0.001*
Resistance	0	0.0	18	75.0	
Near-exhaustion	0	0.0	5	20.8	
Exhaustion	0	0.0	1	4.2	

* Chi-square test (* p ≤ 0.05)

DISCUSSION

In this study, we verified that the majority of nursing students of the last year of the course presented symptoms of stress and were mainly in the resistance phase, followed by those in the phase of near-exhaustion. The results are similar to those of a sample of 705 university students from four Brazilian higher education institutions in the South and Southeast of the country, where the majority (74.4%) are under stress.¹⁶⁻⁷

The high estimate of stress manifestation in nursing students probably occurs because nursing is a course where there are constant interpersonal relationships, both with colleagues and with patients and their respective families, associated with practical responsibilities during the internship period. In this context, the detection of stress has been fundamental for monitoring the welfare of the students, since this is an educational psychosocial factor that can influence in the academic performance.

Among the university students who presented symptoms of stress, most were in the resistance phase. This is the intermediate stage in the stress process and indicates that these students are seeking to adapt to

stressful situations and using their coping resources. This phase is characterized by the attempt to deal with stressors in order to maintain an internal balance. There is national evidence that similar indices (77.8%) of nursing students are experiencing resistance phase.¹⁸

Some university students, although a minority, were in the stages of near-exhaustion and exhaustion. This observation is important, for these are the most severe phases of stress, with worsening signs such as heart diseases, gastrointestinal and psychological problems, and diseases of the immune system.¹⁸⁻⁹ Efforts to elucidate the stages of stress among students are essential to minimize their consequences and evolution.

The identification of stress in nursing schools and its consequences has been linked to strong competitiveness in the last year of the course, both in the classroom and in the internship.²⁰⁻¹ In this respect, the literature indicates that any phase of stress can affect the physical and mental health of students consequently hampering their academic performance. Especially in the last year, when the course is close to conclusion, stress seems to increase. There has been a growing concern with the high number of stressed

students and how the university and students should be aware of coping with stress.²²⁻⁴

It is also observed that nursing students may often have to balance personal stressors, such as family demands, jobs or sports, and the demands of the curriculum.²⁰ These students, especially at night courses, are more likely to be "non-traditional" university students because their personal demands overlap the academics demands, overwhelming them.²⁵

The stress symptoms manifested by university students in the present study were predominantly of a psychological nature, as was also seen in another similar study.¹⁸ In this study, students presented symptoms such as anxiety, fear, altered appetite and nervousness. Knowing the symptoms make it possible to systematize the nursing assistance in order to intervene punctually and to avoid the aggravation of this health problem. The study also emphasizes that the presence of these symptoms may intervene negatively in the teaching-learning process and in the quality of life of students.

A statistically significant association was found between marital status and stress. This finding suggests that marital status seems to act as a risk factor for these symptoms, but the literature on this subject is still scarce, suggesting the need for new studies investigating the physical and psychological processes that trigger and feed stress situations in university students according to their marital status.

Regarding the stress phase, stressed participants were classified in the resistance phase. This association is worrying because it is at this stage that the organism seeks to reestablish the balance and this may generate the sensation of physical exhaustion and difficulties with memory.³ This aggravation can punctually damage the learning process.

International authors support the need for more effective methods to assist nursing students to learn how to manage stress in the educational process and thus minimize memory difficulties in the course of the teaching-learning process.²⁵

The present study has some limitations. First, the results should be evaluated with caution, since it involves the evaluation of only one medium-sized Brazilian municipality. Secondly, the study involved only one particular higher institution located in the northwest region of the state of São Paulo, thus restricting the evaluation of other realities, whether public or private. Thus, we suggest that other studies be developed to investigate the different aspects that relate

to stress and sociodemographic characteristics in other locations.

The main scientific advances that this study allows are related to the fact of providing subsidies and emphasizing the need for arrangements for the prevention of stress-related health disorders, especially in the final periods of the course, and also to help in the discussions about the emotional problems present in academic environment and thus improve the quality of life of university students. In addition, the study brings details to the research of stress in undergraduate nursing students and in a region with a high human development index (HDI) that had not previously been the subject of research of this nature.

CONCLUSION

Nursing students were mostly stressed. Furthermore, the sociodemographic variables resistance stage and marital status proved to be associated with stress in the participants of this study. It is relevant to note that these data are worrying considering the health of these participants and their professional future, as they are about to enter the labor market already with symptoms of stress in the chronic stage of manifestation.

The main contribution of this study is the production of data that support and highlight the need for arrangements to prevent stress-related health problems in undergraduate students enrolled in the last year of the course. The data also contribute to the discussions of emotional problems present in the academic environment and thus foster improvements in the quality of life of university students.

We emphasize the need to identify more effective methods for stress management in nursing schools as an important way to ensure the students' learning and preparation for a successful work environment, stimulating awareness on the harms caused by stress and coping strategies that help reducing stress among university students.

REFERENCES

1. Selye H. Stress and the general adaptation syndrome. *Brit Med J* [Internet]. 1950 [cited 2016 July 25];1:1383-92. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2038162>
2. Daian MR, Petroianu A, Alberti LR, Jeunon EE. Estresse em procedimentos cirúrgicos. ABCD, arq bras cir dig [Internet]. 2012 [cited 2016 July 25];25(2):18-24. Available from: http://www.scielo.br/scielo.php?script=sci_a

[rttext&pid=S0102-67202012000200012](#)

3. Sadir M, Bignotto MM, Lipp MEN. Stress and quality of life: the influence of some personal variables. Paidéia (Ribeirão Preto) [Internet]. 2010 [cited 2016 July 25];20(45):73-81. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-863X2010000100010

4. Lipp MEN, Costa KRSN, Nunes VO. Estresse, qualidade de vida e estressores ocupacionais de policiais: sintomas mais frequentes. Rev Psicol Organ Trab [Internet]. 2017 [cited 2017 July 25];17(1):46-53. Available from: http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1984-66572017000100006

5. Silva VLS, Chiquito NC, Andrade RAPO, Brito MFP, Camelo SHH. Fatores de estresse no último ano do curso de graduação em enfermagem: percepção dos estudantes. Rev Enferm UERJ [Internet]. 2011 [cited 2016 July 25];19(1):121-6. Available from: <http://www.facenf.uerj.br/v19n1/v19n1a20.pdf>

6. Moreira TS, Araújo GF. Percepção de estresse entre discentes do curso de enfermagem de uma IES. Id on Line Rev Psic [Internet]. 2017 [cited 2016 July 25];11(35):479-91. Available from: <https://idonline.emnuvens.com.br/id/article/view/750/1056>

7. Moreira DP, Furegato ARF. Stress and depression among students of the last semester in two nursing courses. Rev Latino-Am Enfermagem [Internet]. 2013 [cited 2016 July 30]; 21:1-8. Available from: http://www.scielo.br/pdf/rlae/v21nspe/pt_2_0.pdf

8. Benavente SBT, Costa ALS. Physiological and emotional responses to stress in nursing students: an integrative review of scientific literature. Acta Paul Enferm [Internet]. 2011 [cited 2016 July 30];24(4):571-6. Available from: http://www.scielo.br/pdf/ape/v24n4/en_a19v24n4.pdf

9. Torquato JA, Goulart AG, Vicentin P, Correa U. Avaliação do estresse em estudantes universitários. Inter Science Place [Internet]. 2010 [cited 2016 Aug 14];3(14):140-4. Available from: <http://www.interscienceplace.org/isp/index.php/isp/article/view/142/141>

10. Furegato ARF, Santos JLF, Silva EC. Depression among students from two nursing under graduate programs: self assessment on health and associated factors. Rev Bras Enferm [Internet]. 2010 [cited 2016 Aug 20];63(4):509-16. Available from: <http://www.scielo.br/pdf/reben/v63n4/02.p>

[df](#)

11. Santos VEP, Radünz V. O estresse de acadêmicas de enfermagem e a segurança do paciente. Rev Enferm UERJ [Internet]. 2011 [cited 2016 Aug 20];19(4):616-20. Available from:

<http://www.facenf.uerj.br/v19n4/v19n4a19.pdf>

12. Lipp MEN, Novaes LE. Stress and quality of life in judges who deal with labor relations: differences in gender. Psicol Reflex Crit [Internet]. 2002 [cited 2017 Aug 11]; 15(3):537-48. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0102-79722002000300008

13. Oliveira JCBC, Carvalho LC, Almeida GCV, Figueredo PMV. Estresse nos acadêmicos de enfermagem de uma universidade pública. Arq Ciênc Saúde. 2014; 21 (2):118-23.

14. Bublitz S, Guido LA, Freitas EO, Lopes LFD. Stress in students of nursing: na a integrative review. Rev Enferm UFSM [Internet]. 2012 [cited 2016 Aug 25];2(3):530-8. Available from: <https://periodicos.ufsm.br/reufsm/article/view/3485/pdf>

15. Lipp MEN, Guevara AJH. Validação empírica do inventário de sintomas de stress. Est Psicol. 1994; 3(11):43-9.

16. Bublitz S, Freitas EO, Kirchof RS, Lopes LFD, Guido LA. Estressores entre acadêmicos de enfermagem de uma universidade pública. Rev Enferm UERJ [Internet]. 2012 [cited 2016 Aug 25];20(6):739-46. Available from: <http://www.e-publicacoes.uerj.br/index.php/enfermagemu/erj/article/view/5992>

17. Bublitz S, Guido LA, Kirchof RS, Neves ET, Lopes LFD. Sociodemographic and academic profile of nursing students from four Brazilian institutions. Rev Gaúcha Enferm [Internet]. 2015 [cited 2016 Sept 10];36(1):77-83. Available from: <http://seer.ufrgs.br/index.php/RevistaGauchaEnfermagem/article/view/48836/33325>

18. Mota NIF, Alves ERP, Leite GO, Souza BSMA, Filha MOF, Dias MD. Stress among nursing students at a public university. SMAD, Rev eletrônica saúde mental alcool drog [Internet]. 2016 [cited 2016 Sept 10];12(3):163-70. Available from: <http://pepsic.bvsalud.org/pdf/smad/v12n3/05.pdf>

19. Oliveira JCB, Carvalho LC, Almeida GCV, Figueredo PMV. O estresse dos estudantes universitário de enfermagem de uma instituição de Rio de Janeiro. Revis Pres [Internet]. 2015 [cited 2016 Aug 16];1(2):39-

55. Available from: <http://revistapresenca.celsolisboa.edu.br/index.php/numerohum/article/view/57>
20. Chernomas WM, Shapiro C. Stress, depression, and anxiety among undergraduate nursing students. *Int J Nurs Educ Scholarsh* [Internet]. 2013 [cited 2016 Aug 16];10(1):255-66. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/24200536>
21. Crary P. Beliefs, behaviors, and health of undergraduate nursing students. *Holis nurs prac* [Internet]. 2013 [cited 2016 Aug 16];27(2):74-88. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/23399707>
22. Goff AM. Stressors, academic performance, and learned resourcefulness in baccalaureate nursing students. *Int J Nurs Educ Scholarsh* [Internet]. 2011 [cited 2016 Aug 16];8(1):1-20. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/21291410>
23. Feitosa M, Santos T, De-Faria A, Silva C, Campos C. Stress level in the students nursing course. *J Nurs UFPE online* [Internet]. 2011 [cited 2017 Sept 12]; 5 (7):1572-81. Available from: <http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/1865>
24. Silva T, Barros P, Pinto M, Lacerda S, Medeiros A, Figueiredo T. Coping strategies used by undergraduate students in nursing. *J Nurs UFPE on line* [Internet]. 2015 [cited 20 Aug 12];9(9):9937-44. Available from: <http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/9128>
25. Turner K, McCarther VL. Stress and anxiety among nursing students: A review of intervention strategies in literature between 2009 and 2015. *Nurse Educ Pract* [Internet]. 2017 [cited 2017 July 29];22:21-9. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/27889624>

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