



ORIGINAL ARTICLE

STRESS LEVEL IN THE STUDENTS NURSING COURSE

NÍVEL DE ESTRESSE PERCEBIDO EM ESTUDANTES DO CURSO DE ENFERMAGEM

NIVEL DE ESTRESE PERCIBIDO EN ESTUDIANTES DE LA CARRERA DE ENFERMERÍA

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ABSTRACT

Objective: to identify the stress level in the students nursing program of a University of Vale do Paraíba. **Method:** a descriptive study of quantitative approach, conducted with 58 students from the fourth series of the undergraduate program in nursing. Data collection was performed by the application of open, closed and mixed questions. The questionnaire comprised two parts: identification and survey of the Perceived Stress Scale (PSS-14). For statistical analysis we used the Fisher exact test. Data were tabulated and submitted to descriptive statistics, with use of the BioStat 5.0. The study was approved by the Ethics in Research of the University of Taubaté (CEP No. 564/09). **Results:** the level of stress scored 20 to 24 in 19 (32.77%) of undergraduates, indicating high levels of punctuation. As for Fisher's exact test, it was found that there was no significant difference ($p = 0.05$). **Conclusion:** the nursing graduates have high levels of stress, which indicates, in fact, that many students, or because they work concurrently with their studies, or an excess of academic activities, among other factors, are impaired in learning. **Descriptors:** classification; complications; nursing; nursing education.

RESUMO

Objetivo: avaliar o nível de estresse percebido em estudantes do curso de enfermagem de uma Universidade do vale do Paraíba paulista. **Método:** estudo descritivo de abordagem quantitativa, realizado com 58 graduandos da 4ª série do Curso de Graduação em Enfermagem. A coleta foi realizada mediante aplicação de questões abertas, fechadas e mistas. O questionário era composto por duas partes: identificação e questionário da Escala de Estresse Percebido (PSS-14). Para análise estatística dos dados foi utilizado o teste exato de Fisher. Os dados foram tabulados e submetidos à estatística descritiva, com utilização do programa Bioestat 5.0. A pesquisa foi aprovada pelo Comitê de Ética em pesquisa da Universidade de Taubaté (CEP nº 564/09). **Resultados:** o nível de estresse obteve pontuação de 20 a 24 em 19 (32,77%) dos graduandos, indicando níveis altos de pontuação. Quanto ao teste exato de Fisher, constatou-se que não houve diferença significativa ($p=0,05$). **Conclusão:** os graduandos de enfermagem apresentam níveis altos de estresse, o que indica, de fato, que muitos estudantes, ou por trabalharem concomitantemente com os estudos, ou por excesso de atividades acadêmicas, entre outros fatores, são prejudicados no aprendizado. **Descritores:** classificação; complicações, enfermagem; educação em enfermagem.

RESUMEN

Objetivo: identificar el nivel de estrese percibido en estudiantes de la carrera de enfermería de una Universidad del vale del Paraíba paulista. **Método:** estudio descriptivo de abordaje cuantitativo, realizado con 58 alumnos del 4º curso de graduación en enfermería. La cosecha fue realizada mediante aplicación de cuestiones abiertas, cerradas y mistas. El cuestionario era compuesto por dos partes: identificación y cuestionario de la Escala de Estrese Percibido (PSS-14). Para análisis estadística de los datos fue utilizado el test exacto de Fisher. Los datos fueron tabulados y sometidos a la estadística descriptiva, con utilización del programa Bioestat 5.0. La investigación fue aprobada por Comité de Ética en investigación de la Universidad de Taubaté (CEP nº 564/09). **Resultados:** el nivel de estrese obteve puntuación de 20 a 24 en 19 (32,77%) de los graduandos, indicando niveles altos de puntuación. Quanto al test exacto de Fisher, se constató que no hubo diferencia significativa ($p=0,05$). **Conclusion:** los graduandos de enfermería presentan niveles altos de estrese, lo que indica, de hecho, que muchos estudiantes, o por trabajar concomitantemente con los estudios, o por exceso de actividades académicas, entre otros hechos, son perjudicados en el aprendizaje. **Descritores:** clasificación; complicaciones, enfermería; educación y enfermería.

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INTRODUCTION

The word stress has been widely used nowadays, and its concept has been employed by the media to define problems that affect people when exposed to a lot of pressure at work, at home, at school, that is, in everyday life in general.¹

Stress is defined as a physical or psychological force that, when applied to a system, can cause tension and lead to changes. Nowadays, it is caused by stress and excessive worries.²

Joining the University involves processes of change in general significant, because the students go through processes of adaptation during their training in the academia, which can lead to crisis situations, such as the emergence of depression, school dropout, alcoholism, problems in learning, difficulties in personal relationships and isolation.³

The students in the area of health care require specific attention because, as a consequence of being constantly compared to psychological distress, they are marked by doubts and anxieties that must be carefully considered. This is caused by their experience through their own feelings and difficulty to manage them.⁴

The causes of stress among students are diverse and depend on the existing risk factors in the environment, such as transport, emotional status, family status, location of study, work, eating habits, lack of leisure and sports, among others.⁵

The results of this research can contribute positively to undergraduate nursing students during their graduation. Education institutions and teachers can also intervene meaningfully in the process of teaching and learning, using a teaching methodology in favor of the student, proposing measures to reduce their stress. This will reflect the performance of graduates in the course of each year and in the activities, making them more interested

and participating in classes, which will bring benefits to their own institution.

OBJECTIVE

- To evaluate the stress level in the students nursing program of a University of Vale do Paraíba.

METHOD

This is a descriptive, quantitative approach. The method used was inductive. The survey was conducted in a University of Vale do Paraíba, with 58 students from the fourth series of the undergraduate program in nursing.

The research project was approved by the Ethics Committee of the University of Taubaté-SP, under protocol number CEP No. 564/09. The participants signed a consent form before responding to the instrument collection, as recommended by the resolution 196/96 of the National Health.

The data collection instrument consisted of a questionnaire comprising two parts, with open, closed, and mixed questions: in Part A, Identification and characterization of the population, and in part B, data collection inherent in research. To evaluate the stress level, it was used the Perceived Stress Scale (Perceived Stress Scale - PSS 14), composed of 14 items with response options ranging from zero to four (0 = never; 1 = almost never, 2 = sometimes 3 = often 4 = always). The sum of scores of responses provides scores ranging from zero (no stress) to 56 (extreme stress).⁶

For statistical analysis we used the Fisher exact test, and the level of significance for statistical tests was 5%, ie, $p < 0.05$.

RESULTS AND DISCUSSION

Table 1. Gender frequency, age and marital status of respondents. Taubaté, 2010

Variables	F	%
Gender		
Female	52	89.66
Male	06	10.34
Total	58	100
Age		
17 to 20 anos	07	12.07
21 to 24 anos	25	43.10
25 to 28 anos	07	12.07
29 to 32 anos	05	8.62
33 to 36 anos	10	17.24
Acima de 37 anos	04	6.90
Total	58	100
Marital Status		
Single	41	70.69
Married	15	25.86
Divorced	02	3.45
Total	58	100

In Table 1, the results regarding the identification of the sample showed that 52 (89.66%) students who are studying for a degree in nursing were female. In a survey of 102 nursing graduates of the School of Nursing, Hospital Israelita Albert Einstein in Sao Paulo in 2007, females prevailed in 95%.⁷ It is believed that this predominance is due to the history of the profession of nursing.

Their ages ranged from 17 to 37 years. The predominant age group, for 25 (43.10%) of the students, was between 21 and 24 years. Similar results were found in a survey of 109 students from 1st to 4th year of nursing at the University of Campinas (UNICAMP) in 2005,

where the average age of participants was 22 years.⁸

With regard to marital status, 41 (70, 69%) of graduates were single and 15 (25.86%) were married. It was evident that students who take the nursing course, most of them, were unmarried, a fact that corroborates the results of a study conducted with 42 undergraduate students of nursing at the University of Campinas, in 2003, which also dominated the singles in 92.86%.⁹ It is believed that these data show that most participants do not have a stable relationship, which may be related to long working hours, night shifts, and few days off on weekends.

Table 2. Frequency of work, shift of work, role and employment contract of those surveyed. Taubaté, 2010.

Variables	F	%
Employed		
Yes	34	58.62
No	24	41.38
Total	58	100
Turno de trabalho		
Daytime	11	32.36
Nighttime	20	58.82
Both	03	8.82
Total	34	100
Função		
Practical Nurse	12	35.29
Nursing Assistant	13	38.24
Others (general servant, saleswoman...)	09	26.47
Total	34	100
Employment Contracts		
01 Job	31	91.18
02 Jobs	03	8.82
Total	34	100

It is observed in Table 2 that 34 (58.62%) undergraduates had a job, and 20 of them (58.82%) worked in the night shift. Amongst the 13 (38.24%) who worked as nursing assistants, only three (8.82%) had two employment contracts.

Similar results were found in a survey with 414 academics, from 1st to 9th period of the nursing course, PUC Betim-MG, in which 67.74% were students and workers, and only 32.26% were only students.¹⁰ It is believed that this predominance of student employees due to financial difficulties encountered with

the entrance into a university. Because of this, students often have to face more than one employment, for their support and maintenance of the course.

Having two jobs is necessary because of the insufficient wages in the health area, and in order to support his/her family or him/herself with general obligations, leading professionals in this area seek other sources of income. Obviously, this activity needs to address double interfering with quality of life of the worker and the academic lives of undergraduates.¹¹

Table 3. Frequency of physical activity. Taubaté, 2010

Do Physical Activities	F	%
Yes	19	32.76
No	39	67.24
Total	58	100

Table 3 shows that 39 (67.24%) students did not engage in physical activity. This corroborates research with 281 students in the area of health from the University of Brasilia-DF: only 16% of students of nursing physical activity.¹²

The positive effects of exercise on stress reduction are linked to increased endorphins

circulating in the blood. The exercise training promotes a series of physiological and biochemical alterations involved in neurotransmitter release and activation of specific receptors, which helps the reduction of scores indicative of depression, anxiety and stress, since changes of these

Table 4. Scores of Perceived Stress of respondents. Taubaté, 2010

Score of Perceived Stress Scale	F	%
10 to 14	03	5.17
15 to 19	05	8.62
20 to 24	19	32.77
25 to 29	18	31.03
30 to 34	10	17.24
35 to 40	03	5.17
Total	58	100

Table 4 shows that the stress level achieved dominance on scores from 20 to 24 in 19 (32.77%) and 25 to 29 in 18 (31.03%) nursing graduates, which shows the prevalence scores between 20 and 29, as the Perceived Stress Scale. These data confirm a study conducted with 218 students from the last series of five undergraduate courses in nursing from the private network in São Paulo, in 2002, when data showed that 70.5% were unable to maintain attention during class, attributed to fatigue, stress, and sleepiness. With this description, it is noted that the reality of certain groups of undergraduate nursing suffer many difficulties in fulfilling their homework, which interferes with the completion of the course and in the learning process during the developed activities.¹³

Similar results were obtained in the survey conducted with 178 students from first to sixth years of medical school to a public university of Rio de Janeiro-RJ, 2003. Regarding the level of stress, the survey

showed that 65% of graduates had stress.¹⁴ Similar results were also found in a survey of 20 undergraduates of the seventh and eighth semesters of undergraduate course in nursing at the University Nove de Julho - SP, in 2008. It demonstrated that 75% of respondents also reported stress.¹⁵

Another survey, conducted on 326 students from Universidade Católica de Brasília (UCB), showed that 65.60% of participants had stress (1, 2005). According to studies conducted in Santiago, Chile, in the courses of Medicine, in both University of Santiago de Chile and Universidad de Chile, among the courses in the area of health, the nursing course was the one with higher levels of stress.¹⁶

Table 5. Frequency of the comparison of the score of the stress level of the students who perform and those who do not perform physical activity. Taubaté, 2010

Do			Do not do		Total	
			Score of Perceived Stress Scale			
Score of Perceived Stress Scale	F	%	F		F	%
0 to 10	—	—	—	—	—	—
11 to 21	06	31.58	07	17.94	13	22.41
22 to 32	11	57.89	26	66.67	37	63.80
33 to 43	02	10.53	06	15.39	08	13.79
43 to 56	—	—	—	—	—	—
Total	19	100	39	100	58	100

Concerning the relationship of the students who perform physical activity or not, it is observed in Table 5, the levels of stress are scores of important variation: among those involved in physical activity, the prevalence was shown in 11 (57.89%) undergraduates, in the range 22 to 32, those who did not engage in physical activity, on the same scale, were 26 (66.67%), and also 8 (13.79%) students, in the range 33 to 43.

The physical activity is an intervention that can help in reducing the effect of stress in daily life in an efficient and inexpensive.

Besides physical activity, other strategies such as regular relaxation, healthy lifestyle, sleep well, good laughs and remove negative thoughts, can help ensure that the individual has a better quality of life.¹

It is believed that these scoring alternations occur due to a lack of time on the part of undergraduates, due to activities in the university and the fact that many of them work. In the course, physical activity is an optional subject in 1st year, and the interest in it vanishes with because of the overload of activities and disinterest by the students.

Table 6. Frequency comparing the score of the stress level of the students who work and those who do not work. Taubaté, 2010.

Score of Perceived Stress Scale	Work		Do not Work		Score of Perceived Stress Scale	
	F	%	F		F	%
0 to 10	—	—	—		—	—
11 to 21	05	14.70	08		33.34	22.41
22 to 32	25	73.52	13		54.16	65.52
33 to 43	04	11.78	03		12.50	12.07
43 to 56	—	—	—		—	—
Total	34	100	24		100	58 100

Concerning the relationship of the students who worked and not worked, it is observed in Table 6 that there were significant differences. There was predominance among the scoring 22:32 in both comparisons, showing that students who were not employed had lower stress levels than those who worked.

It should be noted that many students need to study and work simultaneously and are often forced to work at night due to the integral-time college.¹⁷⁻¹⁸ The work shift is a

characteristic of the profession of nursing and is a must, since assistance is provided 24 hours a day, every day of the week, without interruption. Thus, this profession is featured mostly by night assistance, on weekends and on holidays, a time when other workers sleep, rest, study and enjoy the social life and family.¹⁹⁻²⁰

The frequency of responses to the questions asked in accordance with the Perceived Stress Scale (PPS-14) is shown in Tables 7 to 12.

Table 7. Frequency of responses: Are you bothered by unexpected events?

Variable	F	%
0 = never	01	1.72
1 = hardly ever	06	10.34
2 = sometimes	31	53.46
3 = usually	15	25.86
4 = always	05	8.62
0 = never	01	1.72

As for the graduate student bothered by unexpected events, it is noted in Table 7 that 31 students (53.46%) answered "sometimes".

The nursing student need to or have to receive some care which assists in self-awareness, working with their fears and

anxieties in the university environment in general, in which the entire process of caring for others requires emotional balance, both to themselves and to patients who receives daily care.²¹

Table 8. Questions to the respondents: Is it hard to control important things in your life?

Variable	F	%
0= never	04	6.90
1= hardly ever	09	15.51
2= sometimes	33	56.91
3= usually	12	20.68
4= always	—	—
Total	58	100

Regarding the question about the fact that undergraduates find it difficult to control important things in their lives, it is noted in Table 8 that 33 (56.91%) nursing students answered that it is sometimes difficult to exercise this control. In a survey with 46 undergraduates, in a nursing school in the city of Ribeirão Preto, regarding the expectations and concerns for the future, it was referred some worries about wage, employment after graduation and professional achievement. It

was observed that 39.1% respondents reported tiresome at the end of the day, 34.8% had thoughts that provoked anxiety and 30.4% had emotional exhaustion.²

It is believed that undergraduates are experiencing symptoms at the end of the day due to the difficulty of controlling important events in their lives, since they work with the health of others and who often face situations that lead to changes, both physical and psychological.

Table 9. Frequency of responses: Do you feel nervous and stressed?

Variable	F	%
0= never	–	–
1= hardly ever	03	5.17
2= sometimes	29	50.00
3= usually	17	29.32
4= always	09	15.51
Total	58	100

As for undergraduates feel nervous or stressed, it is noted in Table 9 that 29 (50%) nursing students responded predominantly that they sometimes feel nervous and stressed, and 17 (29 32%) said they usually feel like this. Similar data were found in a survey in another course in health area, conducted with 78 undergraduate students from a Medical School, at Federal University of Rio Grande do Sul (UFRGS) in 2006.The study examined the occurrence of stress symptoms in 40 students (51.3%). Among them, 90% felt anxious or nervous in the last six months.²²

In the nursing course, the end of the semester is the greatest stress maker, because it is a period that generates curiosity

and anxiety about the approval or disapproval. Often, the tests are performed without enough preparation, so their own goals and the professors’ ones in order to have the best performance constitute an effective stressor.²³

In a survey conducted with 22 learners in a group of 50 students selected from the 5th and 6th periods of nursing degree in 2000, the School of Nursing, State University of Rio de Janeiro - FENF/UERJ, it was observed that 40.9% were easily annoyed and that 50% consider themselves to be stressed. It was concluded that the students have signs and symptoms that characterize the negative stress (distress), which ends up interfering with the quality of life.⁵

Table 10. Frequency of answers: have you ever thought that you could not take your entire task?

Variable	F	%
0= never	03	5.17
1= hardly ever	08	13.79
2= sometimes	35	60.35
3= usually	08	13.79
4= always	04	6.90
Total	58	100

As for those students who have already thought about not taking their entire tasks it is noted, in table 10, that 35 learners (60,36%) said predominantly “sometimes”. Task is understood as a set of specific psychological and physiological phenomena in man's realization of his actions when he invests his body, his thoughts, desires, hopes and even their history. The completion of tasks refers to the work assigned, corresponding to a set of goals and requirements.²⁴ The academic environment is characterized by numerous tasks and little time to accomplish them.²⁵

The feeling that everyday tasks are greater than the means to solve them is also a factor that can cause stress more frequently when

there is a perception of having too many responsibilities, but little chance of significant decision-making and control.²⁶

In a survey of 30 nursing students, in 2009, in a private institution of higher education in the central region in the state of Rio Grande do Sul, there were reports of lack of time to do everything, impatient professors and lack of time to do all the tasks, when students were asked about what would causing, currently, more stress.²³

Table 11. Frequency of responses: Do you feel angry when events get out of your control?

Variable	F	%
0= never	–	–
1= hardly ever	03	5.17
2= sometimes	19	32.77
3= usually	20	34.48
4= always	16	27.58
Total	58	100

As for the graduating student, feeling angry when events get out of your control is observed, in Table 11, that 20 (34.48%)

responded usually. In a study conducted in 2000 with 22 students in a University of Rio de Janeiro-RJ, the results showed that 50% of

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students considered themselves stressed, 40.9% were irritated easily, 50% had frequent headaches and 63, 6% saw themselves as fatigued. Students facing emotional problems,

excess liability, concerns and conflicts, and their main complaints were: mood swings, nervousness, irritability, malaise, insomnia and headache.⁵

Table 12. Frequency of response: Have you ever been surprised with thoughts like: I should improve my quality of life?

Variable	F	%
0= never	—	—
1= hardly ever	04	6.90
2= sometimes	22	37.93
3= usually	19	32.77
4= always	13	22.40
Total	58	100

In reference to the question about the opinion of the student as to improve their quality of life, it is observed in Table 12. 22 (37.93%) answered "sometimes ". In a study on perception of quality of life conducted with five students from the fourth year of undergraduate course in Nursing at the Center for Medical and Biological Sciences at PUC / SP, the results showed that the main conditions that promote quality of life are the experiences extracurricular activities, the teacher-student relationship and the relationship between students of the same course. The non-promoting quality of life were lack of acceptance by teachers and nurses from the training field, lack of integration and engagement with staff and

students from other courses and excessive workload for the student worker.²⁷

In another survey, conducted with students from first to eighth semester of the Undergraduate Program in Nursing at the Universidade Federal de Santa Maria, Rio Grande do Sul (UFSM), totaling 53 participants in 2001, it was concluded that leisure is of vital importance. Besides academic activities during the course, the use of free time can influence future choices of the student. Thus, nursing students, understanding and valuing leisure at a broader scale, as a self-care at different moments of their lives with comfort, welfare, relief, joy and peace, may promote a humanize care of the other.²⁸

Table 13. Frequency of responses: Do you think those difficulties accumulate to the point of being unable to control them?

Variable	F	%
0= never	—	—
1= hardly ever	03	5.17
2= sometimes	19	32.76
3= usually	20	34.48
4= always	16	27.59
Total	58	100

As for student believing that difficulties accumulate to the point of being unable to control them, it is observed, in Table 13, that 20 (34.48%) answered always. Managing the daily routine is not always easy, since it requires sacrifices, often without recognition of the effort. The overhead, coupled with external factors and in comparison with the internal profile of the individual, produces stress.

The response to these factors harmful to the one's body will depend on how this person visualizes the reality at the moment. Most of these problems have their source in the emotion that pervades the actions of people in work, study or personal relationships. The

physiological response to stress is mediated by factors coming from the environment, however, the emotional reaction, which precedes it, is not always controlled.²⁹

It is believed that students have this symptom of the difficulties that accrue to the point of being unable to control them due to the workload of the school, practice in laboratories, scholarly works, supply of reports in stages, activities in which student is observed and evaluated all the time, and also concern about the evidence and frequency, and charges relevant to each situation

Table 14. Univariate analysis of variables for gender, age, work and time, physical activity, with the Perceived Stress Scale. Taubaté - SP, 2010

Variable	Categories	Stress Scale score		Value p
		Less than <23 points	More or equals >23 points	
		F	F	
Genre	Male	02	04	0.9953
	Female	14	38	
Age	17 to 28 years old	11	28	1.0
	29 onwards	05	14	
Work	Yes	07	27	0.2332
	No	09	15	
Phisical Activity	Practice	06	13	0.7563
	Do not practice	10	29	
Work Shift	Nighttime	06	14	0.3717
	Daytime	01	10	

After applying the Fisher’s exact test, we found that there was no significant difference in the significance ($p = 0.05$) among pupils in relation to gender, age, physical activity, work and the period in which working with score result on the Perceived Stress Scale.

CONCLUSION

The study showed that students of undergraduate nursing exhibit high levels of stress.

Many nursing graduates reconcile work in the nighttime with the stages in hospitals, classes, laboratory, which may constantly get them to face various problems such as: end-stage patients, family anxiety, death, difficulty in adapting to the environment stage, recovery by the nursing staff and teachers, lack of appreciation and recognition. These factors constitute a major stressor; alongside the need for some students were also workers, because they find financial difficulties in studying

Stress is an unavoidable reality on the complexity of human life. It should establish an optimal balance of personal stress, using the energy expended during the period of adaptation for the recognition of the very limit of the body and mind.

It is suggested to the technician responsible for the nursing program of the institution and the professors involved in teaching and learning of the nursing students, the application of a teaching methodology in favor of the student. This procedure will improve continuously over the years, and bring benefits to the entire academic community.

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