Stress among nursing students at a public university

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Objective: To estimate the level of stress and symptomatology reported in nursing students from a public university. Method: This is a transversal and quantitative study involving 151 nursing students selected from a draw based on the list of students enrolled. The adult version of the Lipp's inventory of symptoms of stress was used. Data were analyzed and descriptively presented by absolute and percentage distributions using the statistical software R. Results: 49.7% of students showed symptoms of stress, and most students were attending the 8th and 9th periods. Psychological symptoms were more present (50.7%). Conclusion: Implementing lightweight care technology tools is recommended, at low cost and high resolute power, to better combat stress.

Descriptors: Nursing; Students Nursing; Stress Psychological; Mental Health.

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Estresse entre graduandos de enfermagem de uma universidade pública

Objetivo: Estimar o nível de estresse e a sintomatologia apresentada em acadêmicos de enfermagem de uma universidade pública. Método: Estudo transversal e quantitativo envolvendo 151 graduandos de enfermagem selecionados a partir de um sorteio baseado na lista de alunos matriculados. Foi utilizado o inventário de sintomas do stress de Lipp versão para adultos. Os dados foram analisados e apresentados descritivamente por meio de distribuições absolutas e percentuais, utilizando software estatístico R. Resultados: 49,7% dos alunos apresentaram sintomas de estresse, com a maioria de indivíduos cursando o 8º e 9º períodos. Os sintomas psicológicos foram mais presentes (50,7%). Conclusão: Recomenda-se implementação de ferramentas de tecnologia leve do cuidado que apresentam baixo custo e alto poder resolutivo, para melhor combate ao estresse.

Descritores: Enfermagem; Estudantes de Enfermagem; Estresse Psicológico; Saúde Mental.

Estrés entre graduandos de enfermería de una universidad pública

Objetivo: Estimar el nivel de estrés y la sintomatología presentada en académicos de enfermería de una universidad pública. Método: Estudio transversal y cuantitativo envolviendo 151 graduandos de enfermería seleccionados desde un sorteo basado en la lista de alumnos matriculados. Fue utilizado el inventario de síntomas del estrés de Lipp versión para adultos. Los datos fueron analizados y presentados descriptivamente por medio de distribuciones absolutas y porcentuales, utilizando software estadístico R. Resultados: 49,7% de los alumnos presentaron síntomas de estrés, con la mayoría de individuos cursando el 8º y 9º períodos. Los síntomas psicológicos fueron más presentes (50,7%). Conclusión: Se recomienda implementación de herramientas de tecnología lleve del cuidado que presentan bajo coste y alto poder resolutivo, para mejor combate al estrés.

Descriptores: Enfermería; Estudiantes de Enfermería; Estrés Psicológico; Salud Mental.

Introduction

Stress is considered an experience that causes tension and/or irritation in fear, excitement or confusion situations, making the body react to the physical and psychological components that caused it. Currently, stress is a term used in various contexts[1]. However, professions that require close contact with people, full of emotional involvement such as medicine, psychology, nursing and physical therapy are more likely to develop stress[2-4].

Nursing is a risk profession for stress development, since the student, from academic education, faces with situations that require important decision making in patient care. Moreover, insecurity and anxiety, resulting from this process, may trigger or worsen the symptoms. Features such as high-level of cognitive skills, disposition and proactive attitudes are constantly required both from nurses that work as well as nursing students. Thus, stress can impair performance both in the academic as in social assistance[3-5].

Studies dealing with stress diagnosis in nursing students, especially in higher education students[1],

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show that the complexity of the course and dealing with human limitations can often trigger this process in the student, sometimes leading to the emergence of chronic conditions in more susceptible persons[1,6]. Thus, "stress" factor is an aspect to be taken into account, given that these will be the future professionals and caregivers, partly responsible for the treatment, recovery and rehabilitation of a customer[7].

It is noticed that stress has become a public health problem and requires more attention by the society and health-promoting entities. Thus, studies should be conducted in order to identify this aggravating factor and its sources, aiming at quality of life of individuals[7].

Moreover, the lack of research addressing this topic in relation to nursing students is another point to be considered, which proves the importance of new studies. Most of these investigations use a qualitative methodology to analyze stress among students, but not instruments with known psychometric properties. This may be because stress is a phenomenon difficult to be measured directly, requiring the use of appropriate evaluation tools for a correct identification of this phenomenon[8].

Therefore, the development of studies that address this issue is important because stress is not only a process resulting from the changing habits and inadequate lifestyles, but also a risk factor for other diseases and psychological disorders, which can cause diseases later in life. Moreover, it influences those who live with people who suffer from stress, such as family, friends and co-workers who are linked to the development of this disease and also to the support for its resolution[7].

Based on the above, the following question arose: What is the level of stress among nursing students? Thus, this study aimed to estimate the level of stress and symptomatology reported among nursing students from a public university.

Method

This is descriptive study with a quantitative approach, involving nursing students from a public university in João Pessoa/PB, held from February to June 2014.

The sample was obtained from a list of students enrolled from 3rd to 10th period of the second semester of 2013, provided by the Department of Nursing Course. Students from 1st and 2nd periods were excluded because the curriculum is composed of disciplines that take place in different buildings,

making it difficult their location. Considering the population (N=314) and that the aim of this study is to estimate the level of stress among students, then the interest lies in establishing a ratio[9]. Thus, sample calculation was estimated on 145 subjects distributed in eight periods, as shown in the following table.

Table 1 – Number of students selected per period. João Pessoa, PB, February to June 2014.

Period	Students enrolled	Sample
3rd	46	21
4th	41	19
5th	43	20
6th	43	20
7th	37	17
8th	30	14
9th	38	18
10th	36	16
Total	314	145

The selection of students in each period occurred from a simple random probability sample, in which a draw was held from the list of students enrolled in each period. Only students who were not at the time of the draw were excluded, and a new draw was carried out to replace those students.

Considering loss possibility by 5% due to erasure of questionnaire or refusal to participate in the study, 152 students were randomly selected. At the end, there were no erasures and only one student refused to participate, with a total sample of (n=151) nursing students.

The students of the research were approached in the classroom, before or after the academic activities, taking on average 15 minutes to spontaneously answer to tools and all of them were told not erasure their responses.

As data collection instruments, two questionnaires were used. A semi structured questionnaire containing socioeconomic data addressing the following variables: gender, age, ethnicity, per capita income, religion, and occupation or profession.

In order to investigate stress among nursing students, the Inventory of Symptoms of Stress for Adults of Lipp (ISSL) was used[10]. The ISSL is a validated instrument that identifies the state of stress, its phase and vulnerability to physical, psychological

symptoms, or both. Composed of 52 items, divided into three tables that assess symptoms presented the last 24 hours (Phase I - Alert), last month (Phase II - Resistance) and last three months (Phase III - Exhaustion)[11].

In the Alert phase, the body has an excitement of aggression or escape to the stressor, which can be understood as an adaptation behavior. In both cases, a healthy reaction to stress is recognized, because it enables to return to equilibrium after the stressful experience. The Resistance phase is marked by the persistence of the alert phase, in which the body changes its normal parameters and concentrates the internal reaction in a particular target organ, triggering the local adaptation syndrome (LAS). In the Exhaustion phase, the body lies exhausted by too much activity, then organ failure occurs, mobilized during LAS, which manifests as organic diseases[12].

However, another phase of the stress process was identified, which was called Nearly Exhaustion, by being between the phases of resistance and exhaustion, causing the person a strong sense of exhaustion, increasing the chance of emotional imbalance. It is important to remember that not always the person goes through four phases, and only reaches the exhaustion phase when the stressor is very serious and cannot adapt to the situation[12].

Data were descriptively analyzed through absolute and percentage distributions. The program used for data entry and statistical calculations was the statistical software R, version 2.12.1[13].

This study met the requirements proposed by Resolution No. 466/12 of 12 December 2012. This study is an unfolding of a larger project, entitled: Care Practices in Formal and Informal Health System, approved by the Research Ethics Committee of the Federal University of Paraíba, under protocol number 0059.

Results

Most of interviewed students were female (90%) and over half (64.9%) were between 20 and 25 years old, with an average age of 22.74 years. Of them, 41.1% declared themselves as white and 58.9% as non-white. The Catholic religion had the highest occurrence rate (64.2%). Regarding per capita income, the calculated values based on the minimum wage (R$ 724.00) in 2014 was taken into account, and from it 41.7% of students declared income per capita of up a minimum wage; 13.9% between one and three salaries and 44.4% income over three salaries. As for occupation or profession, of 151 interviewed students, 10.6% had nursing technician training; however, of this percentage only 8.6% acted in the profession, performing as students and professionals of health at the same time.

Table 2 shows that 49.7% of students had stress level. In the 9th and 8th periods, the amount of stressed individuals increased in relation to other periods, with respectively 7.9% and 7.2% of students. Considering that in the first periods the number of people with no stress was higher in the 3rd, 4th and 5th periods, with a percentile of 7.9% of students for each academic semester.

Table 2 – Distribution of nursing students according to school year attended and presence of stress according to the ISSL. João Pessoa, PB, February to June 2014.

Nursing Students	With Stress		With no Stress		Total	
School year	N	%	N	%	N	%
3rd	09	6.0	12	7.9	21	13.9
4th	09	6.0	12	7.9	21	13.9
5th	06	40	12	7.9	18	11.9
6th	09	6.0	11	7.3	20	13.3
7th	09	6.0	09	6.0	18	11.9
8th	11	7.2	06	4.0	17	11.2
9th	12	7.9	08	5.3	20	13.3
10th	10	6.6	06	4.0	16	10.6
Total	75	49.7	76	50.3	151	100.0

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According to the ISSL, of the 49.7% of students with stress, most of that percentage (42.4%) was in the resistance phase, with the largest number of students distributed in the 8th and 9th periods (Table 3).

Table 3 – Distribution of nursing students by phases of stress, according to the ISSL. João Pessoa, PB, February to June 2014.

Phase	Frequency	Percentage
Alert	04	2.7
Resistance	64	42.4
Nearly exhaustion	05	3.3
Exhaustion	02	1.3
With no stress	76	50.3
Total	151	100.0

Table 4 shows that the psychological symptoms are more present in those students who have stress (50.7%), followed by physical symptoms (40.0%). In the Resistance or Nearly exhaustion phase the psychological symptoms were present in 42.7% of cases and physical symptoms in 40.0%. Only 9.3% of students developed both symptoms.

Table 4 – Distribution of nursing students as to the type of stress symptom per phase, according to ISSL. João Pessoa, PB, February to June 2014.

Phases	Symptoms						Total per phase	
	Physical		Psychological		Physical and Psychological			
	N	%	N	%	N	%	N	%
Alert	00	0.0	04	5.3	00	0.0	04	5.3
Resistance or nearly exhaustion	30	40.0	32	42.7	07	9.3	69	92.0
Exhaustion	00	0.0	02	2.7	00	0.0	02	2.7
Total by distress	30	40.0	38	50.7	07	9.3	75	100.0

Discussion

The profile of nursing students in this study does not differ from those found in other studies. Most of them were female. This difference is due to the fact that the profession is historically and culturally linked to women's practices. Nursing has care as object, which has always seen as a hegemonic feminine quality. Women are prepared from an early age to be mothers, take care of the house, of the family, of the sick, that is, to take care of everything and everyone. Despite so many changes in the world and in the professions, nursing is still seen as a feminine characteristic profession[7,14-15].

Regarding the variable financial situation, it is clear that most of the study participants have low per capita income. Having their time filled by numerous academic activities, in a full time course, decreases students' chances to work, which is a factor considered stressor, as much as lack of money, causing financial difficulties[7].

Some of the students had technical nursing training. A study aiming to analyze the student profile in the nursing graduation course found that almost half of the sample attended technical courses before joining university. This shows the constant search for qualification, an item required in a highly competitive labor market[15].

In this study, almost half of the students had levels of stress. Stress is a common and expected occurrence in academic nursing environment. The students from each educational institution experience more or less intensity of this process during the period of teaching and learning and are dependent on the reality in which they live, because intensity fluctuations occur during the different stages of their formation [16].

Stress, when installed in this population, can lead to problems favoring decrease of academic performance and quality of care provided during the theoretical and practical training[17].

Among the students who had some level of stress, most were in the last periods of graduation. This is due to natural concern with career and personal life development. Course syllabus of theoretical and practical activities, preparation of final paper, concerns related to the labor market, labor/study/family relations, difficulties in interpersonal relationships, assessments, overload and extracurricular activities are considered stressors. Thus, learning how to live with the pace of busy life, exhausting, with lack of time for leisure and rest, improper diet and excessive pressure is necessary, which are key factors in the development of this stress framework[7,17-18].

On day-to-day of the nursing student, all these factors are experienced from the start of the course. With full-time course, the intense pace of life and psychological pressure caused by the demands imposed by teachers and anxiety about having a well spent period of studying gradually become stressors for students[7].

During the last year of their formation students experience the transition from academic life to work live, which is accompanied by the increase of tasks with high demands and responsibility, causing tension and anxiety. In addition, the workload of studies and internships puts the student in the most vulnerable conditions[19-21].

Transitioning from the academic period to the new professional activity phase involves important decisions, contributing to stress, such as: return to the city of origin or face a big city; start working; have a family and assuming financial responsibilities. Thus, getting out of the protected academic environment and face new challenges can cause stress and, consequently, emotional imbalance and depression[22].

Students concern regarding the final year may also involve the feeling of unpreparedness towards the labor market because they are practically professionals and may be afraid to act alone, soon, without teacher support. Oftentimes this process is accompanied by competition among colleagues themselves[19-20].

Identifying stress factors should give students a process of reflection of their activities, which contributes to the development of strategies for managing stressful situations that may arise in the final year, leading to better academic achievement and preparing them to face a job market with major challenges as future professionals[17].

This study found that most students were in the resistance phase, according to the ISSL. Hans Selye was the first scientist to use the term stress in the health area, describing, through his observations, the general adaptation syndrome (GAS), which can be understood as the set of the organism's reaction towards prolonged exposure to the stressor. According to him, this syndrome has three phases or stages[23].

In this research it was found that more than half of the participants had psychological symptoms of stress. Potentially stressful situations reflect in the quality of life of students, who may have symptoms resulting from this process. [24].

Another qualitative study about stress among nursing students demonstrated personal meaning for students, in which stress, as a category studied, was considered physical and mental manifestation. Participants reported the presence of mind and body tired, frequent irritability, pessimism, moodiness, anti socialism and rudeness[14].

Nursing students have psychological and physiological manifestations of stress in higher proportion than in other areas. Therefore, it is important to investigate the manifestations and sources of stress, so that intervention strategies can be traced, in order to provide better quality of life for these people. Students trained to use combat strategies will have better achievement in the academic stage and will apply the experience in future professional life[1,24-25].

There is need for attention to educators and the creation of programs with preventive and therapeutic actions that allow reflection and healthy outcomes for their distresses, learning to use the acquired knowledge in their future performance[22].

It is necessary that Higher Education Institutions have the means to support students in a healthy academic life, since students go through times of change, growth, failures, maturity, fear and anxiety, experienced in clinical spaces or classrooms. Thus, the place that should favor the construction of knowledge and be the foundation for their professional training experience can trigger diseases[6].

Final remark

It is expected that the results of this study may expand the possibilities for improvement in the organization of nursing undergraduate courses in order to make academic environment less stressful. It is important to implement strategies that help students, since the presence of stress may impair their learning and performance, directly influencing the assistance provided by these individuals and their quality of life.

It is necessary to offer students better conditions to combat stress, and direct participation of teachers and the institution is of extreme importance in the preparation or implementation of strategies to reach this objective. It is recommended, from the present study, the implementation of lightweight care technology tools, at low cost and high resolutive power, such as providing information on stress, prevention and control, relaxation sessions, integrated community therapy, spaces for physical activity guided by trained professionals, for example.

In addition to implementing these technologies, it is suggested that further studies be conducted in order to discover new tools for planning, development and search for improvement of the teaching and learning process as well as research for better ways to prevent stress for nursing students.

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