

Academic stress in nursing students

Estrés académico en los estudiantes de Enfermería

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Summary:

Introduction: The load of academic activities can generate various changes in students at a psychological, behavioral and physical level, which are attributed to stress, which is why they need to implement various coping strategies to cope with it and reduce its magnitude. **Objective:** To evaluate the level of academic stress in Nursing students and identify the causes, manifestations and coping resources. **Methodology:** Analytical, quantitative and transversal study. 610 students were surveyed using the SISCO academic stress questionnaire. **Results:** The average age of the respondents was 28.6 years and they were mostly women (89.84%), in their third year (24.26%) and without children (64.43%). The intensity of academic stress obtained an average of 4.26 out of 5.00. Teacher evaluations were the most recurrent stressor, while the stress responses that stood out were psychological reactions such as anxiety, anguish or despair. The most implemented coping strategy was the development and execution of action plans to solve the problems. **Conclusions:** The majority of respondents presented a serious level of stress. Reactions to stress were linked to the variables age, sex, children and year of the study plan. It is necessary to provide students with tools to cope with stress.

Keywords: Psychological distress; Nursing Students; Coping Strategies; Nursing Education.

Resumen:

Introducción: La carga de actividades académicas puede generar en los estudiantes diversos cambios a nivel psicológico, comportamental y físico, que son atribuidos al estrés, por lo cual, necesitan implementar diversas estrategias de afrontamiento para hacerle frente y disminuir su magnitud. **Objetivo:** Evaluar el nivel de estrés académico en los estudiantes de Enfermería e identificar las causas, manifestaciones y recursos de afrontamiento. **Metodología:** Estudio analítico, cuantitativo y transversal. Se encuestó a 610 estudiantes utilizando el cuestionario SISCO de estrés académico. **Resultados:** La media de edad de los encuestados fue de 28,6 años y fueron mayormente mujeres (89,84%), del tercer año (24,26%) y sin hijos (64,43%). La intensidad del estrés académico obtuvo una media de 4,26 sobre 5,00. Las evaluaciones del docente fueron el estresor más recurrente, mientras que las respuestas al estrés que destacaron fueron las reacciones psicológicas como ansiedad, angustia o desesperación. La estrategia de afrontamiento más implementada fue la elaboración y ejecución de planes de acción para resolver los problemas. **Conclusiones:** La mayoría de los encuestados presentaron un nivel de estrés grave. Las reacciones ante el estrés se vincularon con las variables edad, sexo, hijos y año del plan de estudios. Se requiere dotar a los estudiantes de herramientas para hacer frente al estrés.

Palabras clave: Distrés psicológico; Estudiantes de Enfermería; Estrategias de Afrontamiento; Educación en Enfermería.

1. Introduction

Stress is defined by the World Health Organization (1) as “a state of worry or mental tension generated by a difficult situation,” which has a negative impact on the ability to concentrate and relax, increases the prevalence of headaches, and sleep disturbances. and behavior, gastrointestinal discomfort, alterations in appetite, and predisposes to the use of substances such as tobacco, alcohol and drugs (1). When stress is linked to situations in training or education spaces, it is called academic stress (2).

In the training framework, higher level students, with an emphasis on health sciences students, must acquire a series of knowledge, skills and attitudes for the correct exercise of the profession (3), which represents important challenges. that predispose to the development of academic stress. The latter is particularly greater in students of health disciplines (4), especially in those studying Nursing (5-6) given their frequent approach to stressful situations such as the suffering and death of patients (7). This has been linked to serious effects (7) on the student's health status and their learning processes (8-11).

Various studies have sought to investigate stress in nursing students and its related factors, identifying high levels of stress (6), mostly linked to clinical practice instances (12-13), with a high prevalence of physical reactions (14), with greater impact on women (15) and students in the first years of the curriculum (16).

Given the predictive factor of academic stress on continuity in studies (dropout) and the acquisition of professional knowledge and skills, this work was carried out, the purpose of which was to evaluate the level of academic stress and identify the causes, manifestations and coping resources in Nursing students of a public university in the province of Tucumán, Argentina.

2. Methods

An analytical, cross-sectional study with a quantitative approach was carried out. The sampling was non-probabilistic. The population was made up of 650 students of the Bachelor's Degree in Nursing from a public university in the province of Tucumán (Argentina) enrolled in the second quarter of 2023. The sample was made up of 610 students who accessed participate in the study (93.84%). Students over 18 years of age who agreed to voluntarily participate in the study were included, and improperly completed instruments (incomplete or duplicate answers) and students who did not attend on the day of sampling were excluded (due to the impossibility of taking informed consent). For data collection, the SISCO Academic Stress questionnaire was applied, designed and validated by Barraza-Macías (17) and used in various studies (18-19), which has a Cronbach's alpha reliability of 0.90 considered like very good. This instrument is made up of 31 items that are grouped into five axes:

- A filter item that determines whether the respondent has experienced moments of worry or nervousness in the last semester evaluated on a dichotomous scale (Yes, No).
- An item that allows you to identify the level of intensity of academic stress evaluated on a Likert scale of 5 adjectives, where 1 is little and 5 is a lot.
- Eight items that allow identifying the frequency in which environmental demands are valued as stressors, evaluated using a 5-category Likert scale (never, rarely, sometimes, almost always and always).
- Fifteen items that allow identifying the frequency with which physical, psychological or behavioral symptoms or reactions to the stressful stimulus occur, evaluated on a 5-category Likert scale (never, rarely, sometimes, almost always and always).

- Six items that seek to determine the frequency of the use of coping strategies on a Likert scale of 5 categories (never, rarely, sometimes, almost always and always).

The level of stress is obtained by adding the responses of the instrument and averaging it by the number of items, so that scores from 0 to 33% of the measurement scale are equivalent to mild stress, from 34 to 66% are equivalent to moderate stress, and From 67 to 100%, they are equivalent to serious stress. Scores are assigned so that they are never equal to 1, rarely equal to 2, sometimes equal to 3, almost always equal to 4, and always equal to 5.

The information was complemented with a battery of questions that sought to characterize the students sociodemographically and educationally, inquiring about their age, sex, year of study, employment status, having children, number of failures (failed exams) and number of subjects passed.

To collect the information, the items of the instrument were transcribed into the Google® Forms software and distributed during class hours to those who agreed to participate in the study. Once the data was collected, it was extracted into a Microsoft Excel spreadsheet and analyzed using Infostat v/L®. The calculation of absolute and relative frequencies was carried out for categorical variables, and the mean and standard deviation for numerical variables. Parametric tests were implemented for data analysis due to its normal behavior, evaluated using the modified Shapiro-Wilk test. Student's t tests, ANOVA and Pearson's correlation test were used. A significance level of $p < 0.05$ was set.

The study had institutional approval for its conduct. Informed Consent was implemented and participation was highlighted as voluntary and anonymous at all times. The study was categorized as "risk-free" given its observational nature and since no sensitive or affiliation data were collected (20).

3. Results

The sample consisted of 610 students, with an average age of 28.64 years (SD: 7.95), and they were mostly women (89.84%), in the third year of the curriculum (24.26%)., with employment under a labor dependency relationship (37.21%) and without children (64.43%) (table 1). In the academic aspect, they had an average of 14.55 (SD:9.62) approved subjects from the study plan and 2.13 pending or unapproved exams (SD:1.99). Most of the respondents presented a level of stress characterized as severe (figure 1).

When analyzing the frequency with which environmental demands are valued as stressful stimuli, it was found that teachers' evaluations (exams, essays, research papers, among others) are the most perceived stressor with a mean of 3.86 (SD: 0.99) out of 5.00, while competition with peers in the group was the least stressful with a mean of 2.13 (SD:1.04). Regarding reactions to stress, it was identified that psychological reactions were the most expressed by students with a mean of 3.27 (SD: 0.84) and behavioral reactions were the least, with a mean of 2.89 (SD:0.81). The physical reaction described with the greatest intensity was the presence of chronic fatigue with a mean of 3.53 (SD: 1.04), while the psychological reaction most described was the feeling of anxiety, anguish or despair with a mean of 3.60 (SD:1.08) and the most described behavioral reaction was the increase or reduction in food consumption with a mean of 3.37 (SD:1.18) (Table 2).

Table 1. Sociodemographic and educational characterization of the sample.

Variable	Category	n	%
Sex	Man	61	10.00
	Women	548	89.84
	Other	1	0.16
Children	Yeah	217	35.57
	No	393	64.43
Job	No	168	27.54
	Employee	227	37.21
	Autonomous worker	133	21.80
	Housewife	82	13.44
Course	First year	129	21.15
	Second year	127	20.82
	Third year	148	24.26
	Fourth year	106	17.38
	Fifth year	100	16.39
Total		610	100.00

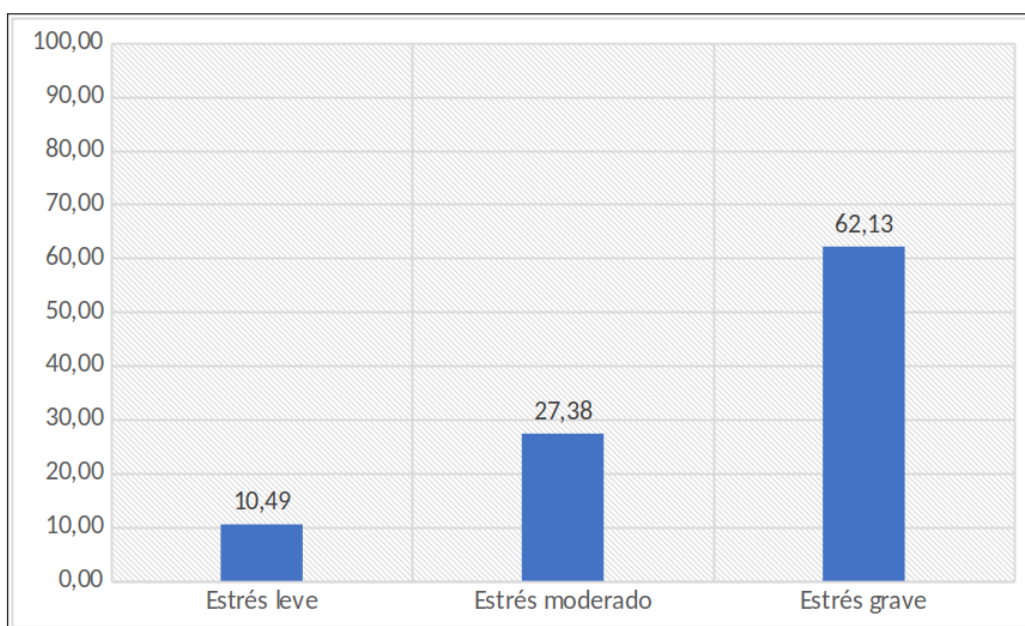


Figure 1. Level of academic stress in nursing students (Estrés leve=mild stress; moderado=moderate; grave=severe).

Regarding coping strategies, the most implemented by the students was the development of plans for the management of stressful situations and execution of what was planned with a mean of 3.17 (SD:1.08), which characterizes it as “sometimes” implemented, while the use of psychotropic drugs and giving praise to oneself were implemented to a lesser extent with means of 1.47 (SD:0.95), equivalent to “never” and 2.54 (SD:1 .21) equivalent to “rarely”, respectively.

A low negative correlation was identified between age and physical (X^2 :-0.23, p :<0.001), psychological (X^2 :-0.29, p :<0.001) and behavioral reactions to stress. (X^2 :-0.25, p :<0.001), and a low positive correlation between age and the implementation of coping strategies (X^2 :0.18, p :<0.001). Age was not correlated with the intensity of academic stress (p :0.894).

Higher averages of stress were found in physical (p:<0.001) and psychological (p:0.010) reactions in female respondents. Likewise, there is evidence of a reduction in the magnitude of physical (p:0.019), psychological (p:<0.001) and behavioral (p:0.025) reactions to stress as progress is made in the study plan and greater implementation of the different coping strategies (p:<0.001). This last data is corroborated by the finding that, the greater the number of subjects passed, the greater the implementation of coping strategies (X^2 :0.21, p:<0.001). Respondents without children presented a greater magnitude of physical (p:<0.001), psychological (p:<0.001) and behavioral reactions to stress (p:<0.001), as well as a lower deployment of the different strategies for coping with academic stress. (p:0.025) compared to those who did have children.

Physical reactions to stress were positively correlated with the implementation of assertive skills (defending preferences, ideas or feelings without harming others) (p:0.015), the use of verbalization and confidences (verbalization of the worrying situation) (p :0.001) and the use of psychotropic drugs (p:<0.001); behavioral reactions were shown to be positively correlated with the deployment of coping mediated by psychotropic drugs (p:0.032) and verbalization and confidence (p:0.007) and psychological reactions were positively related to assertive skills (p:0.023), ventilation and confidence (p:0.015) and the use of psychotropic drugs (p:<0.001).

Finally, the intensity of academic stress obtained a moderate correlation with the presence of physical and psychological reactions to stress, and a low correlation with behavioral reactions.

Table 2. Reactions to academic stress.

Reaction type	Reactions to stress	Half	OF
Physical reactions	Sleep disorders	3.34	1.11
	Chronic fatigue	3.53	1.04
	Headaches	3.26	1.11
	Digestion problems	3.08	1.22
	Scratching, biting nails, or rubbing	2.84	1.43
	Drowsiness	3.42	1.21
Psychological reactions	Concern	3.57	1.03
	Feelings of depression and sadness	3.17	1.16
	Anxiety, anguish or despair	3.60	1.08
	Concentration problems	3.49	0.99
	Feelings of aggression or irritability	2.54	1.28
Behavioral reactions	Conflict or tendency to argue	2.24	1.08
	Isolation from others	2.86	1.23
	Reluctance to do schoolwork	3.11	0.98
	Increase or reduction in food consumption	3.37	1.18

4. Discussion

Stress is seen as a reaction of adaptation of the human being to complex situations in the different spheres of his life and given that one of these spheres is academic, the evaluation of stress in this axis is important, also taking into account its impact. on the learning processes and the development of professional skills necessary for the practice of health care in their future professional practice (21-22).

According to the sociodemographic characteristics, the surveyed population was made up mostly of women and with an average age of no more than 30 years. This data is similar to studies carried out in Argentina (3, 6, 23) and consistent with the report "Situation of Nursing in the world" where it is described that 87% of nursing professionals in the Americas are young women (24).

Regarding the level of stress, it is interesting to note that although in the present work a level of stress categorized as serious in the majority of students was identified, the results described in the

literature are diverse, with reports of low stress levels (15 .25), medium (5, 6, 21) and high (16) in nursing students, which could be linked to the type of institution, study plan, year of study of the respondents and even the period in which it was carried out the measurement. High levels of stress could also be linked to the high proportion of women in the sample (26), who also presented a high prevalence of physical and psychological reactions; This finding has been widely described in the literature, where a greater predisposition is described in women to suffer stress linked to family, social, demographic, economic variables, among others (27-28).

On the other hand, there are studies that indicate that the level of stress tends to be higher in first-year students and decreases as they progress through the curriculum. This could be linked to the acquisition of knowledge, skills and familiarity of students with clinical procedures and processes, teachers and colleagues, and with the particularities of the health system (28). It has been reported in the literature that the implementation of positive coping strategies is linked to a lower perception of stress (29), which could explain the causes in which high levels of stress and a high prevalence of reactions were identified along with a low implementation of coping strategies. Anaman-Torgbor et al (28) described a high prevalence of cognitive, emotional and behavioral symptoms in a sample of 400 nursing students from Ghana, which coincides with the results of the present work where psychological and physical variables were present in a high index.

When contrasting the sources of stress mostly referred to by the sample, it was identified that the evaluation instances were considered the main stressor. This data is similar to studies that refer to the presence of high rates of stress related to evaluative instances and low levels of stress linked to competition with peers (6, 18, 30, 31).

Educational research should have as a priority analyzing the variables that affect the teaching-learning processes (32-34), with this work being a relevant and updated source of information for decision-making by teachers, educational managers and educational institutions. practices, seeking to improve training experiences at both a theoretical and practical level, and guarantee the best state of physical and mental health of the students. Finally, the work team was able to identify as a limitation the fact that the study was carried out in a single public institution, which could affect the representativeness of the results.

5. Conclusions

- The majority of respondents presented a serious level of stress, mainly related to teachers' evaluations (exams, essays, research papers, among others).
- It was identified that the most common reactions to stress were psychological and at a general level a high prevalence of chronic fatigue, feelings of anxiety, anguish or despair and increase or reduction in food consumption were identified.
- The coping strategy most implemented by the students was the development of plans to handle stressful situations and execution of what was planned, while the use of psychotropic drugs and giving praise to oneself were implemented to a lesser extent.
- The intensity of academic stress was linked to the severity of the symptoms that the students manifested and to the sociodemographic variables of age, sex, having children, and year of the study plan.

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