ABSTRACT

Objective: to verify the stress factors commonly experienced by nursing students in carrying out theoretical and practical activities of academic training. Method: descriptive, cross-sectional study, developed with 142 students of the nursing course of a public university located in Mato Grosso do Sul, Brazil. Data were collected in February 2020 through a sociodemographic/academic questionnaire and the Stress Assessment scale in Nursing Students and, later, analyzed descriptively, according to fashion and upper and lower percentiles than the fashion of the variables. Results: fear of making mistakes during patient care (57.4%), feeling of having acquired little knowledge to take practical tests (52.1%), insecurity or fear of taking theoretical tests (44.7%) and mandatory to perform extra-class work (41.5%) were factors that caused very high levels of stress among students. Conclusion: the results can help nursing colleges in the planning and strengthening of preventive interventions focused on stress management and coping.

Keywords: Nursing. Nursing students. Stress psychological. Risk factors. Mental health.

INTRODUCTION

Stress is a complex phenomenon, linked to the relationship established between the individual and the environment in which he is inserted. Studies that address this theme should evaluate the contexts experienced by people, their relationship with the environment, in addition to considering the meanings attributed to daily events. In physiological terms, stress can be observed through hormonal changes in the neuroendocrine system. In daily practice, it manifests through observable behaviors, which are associated with psychoneuroendocrine changes(1,3).

The academic environment, more precisely the health area and, above all, nursing courses, can represent a challenge for the homeostatic balance of students, because they often expose them to situations that require adaptation to the learning process and to the evaluation methods necessary for their training, that is: compliance with obligations and deadlines, demonstration of theoretical-practical knowledge and permanent submission to the evaluation process. Adaptation to academic life involves the emergence of frustrations, anxieties and stressful situations that can affect the quality of life of students and interfere in their study and professional performance(4-6).

Nursing students may experience high levels of stress related to the performance of theoretical and practical activities during the period of academic training, the closer and permanence with the patient and their suffering, the insufficient technical ability for clinical practice, dealing with death, the need to relate to the health team and the concern with insertion in the labor market. Although they perform nursing practice with teacher supervision, these students need to adapt to a way of life in which they assume responsibilities inherent to the teaching-learning process; often without adequate support to deal with the pressures of the professional...
training process\(^{(5,7-10)}\).

The stressful situations described above deserve the attention of researchers, both for bringing physical and psychological effects to the health of nursing students, and for the risk they impose on patients submitted to their care. Students in a state of stress can perform unsafe practices and cause damage to their own health and/or to those under their care\(^{(6)}\).

Despite the vast scientific production about the stress experienced by nursing students, the national and international literatures indicate gaps regarding the stress factors experienced by the students, specifically during the performance of theoretical and practical activities of the formative process\(^{(11)}\).

Theoretical activities during academic training in Nursing include the degree of difficulty felt by students with the programmatic content, the activities developed and the teaching methodology adopted. In this same scenario, practical activities include the instrumental knowledge acquired by the student to perform the procedures, as well as feelings involved with the care offered to the patient\(^{(1)}\).

Through the above and intending to expand the knowledge about the singularity of stress developed during the performance of theoretical and practical activities in the nursing formative process, the question is: what stress factors experienced by nursing students in carrying out theoretical and practical activities of the academic training process?

The present study aimed to verify the stress factors commonly experienced by nursing students in the performance of theoretical and practical activities of academic education.

**METHOD**

This is a descriptive, cross-sectional study developed in a public university located in Mato Grosso do Sul (MS), Brazil. The study population was represented by 229 students enrolled in the 1\(^{\text{st}}\) semester of the 2020 Nursing Course.

The following inclusion criteria were adopted: being 18 years of age or older and being regularly enrolled in at least one discipline with a workload of theoretical and practical classes of the second, fourth, sixth, eighth or tenth semesters of the Nursing Course. Students who were absent during data collection or who dropped college during this period were excluded from the study.

Non-probabilistic sampling was used and led to a total of 142 students (62.0\% of the study population), being: 32 (of the 55 matriculated) of the second semester of the course; 26 (out of 80 matriculated) in the fourth semester; 32 (out of 40 matriculated) in the sixth semester; 30 (out of 30 matriculated) in the eighth semester; and 22 (of the 24 matriculated) of the tenth semester.

Data were collected by two researchers in February 2020, at times and classrooms defined by the course coordination. A questionnaire with sociodemographic/academic data (age, gender, origin, number of children, paid work, individual income, marital status, self-declared skin color, religiosity and current semester) it was elaborated by the researchers and applied together with the Stress Assessment in Nursing Students scale – SANS. The time of application of the instruments in each class lasted an average of twenty minutes.

The SANS allows the evaluation of stress among nursing students through 30 items, grouped into six domains, respectively: 1 - performance of practical activities, 2 - professional communication, 3 - time management, 4 - environment, 5 - professional training and 6 - theoretical activity. We chose only to present the results referring to domain 1 (item 4 - perform care procedures in general; item 5 - the new situations that you may experience in clinical practice; item 7 - the environment of the clinical unit of internship, item 9 - to be afraid to make mistakes during patient care, item 12 - perform certain care procedures and item 21 - feel that it has acquired little knowledge to take the practical test) and domain 6 (item 2 - the obligation to perform extra-class work, item 10 - the form adopted to evaluate the theoretical content, item 13 - feel insecurity or fear when taking the theoretical tests, item 14 - the degree of difficulty in performing the extra-class work and item 28 - assimilate the theoretical-practical content offered in the classroom)\(^{(11)}\). This choice was substantiated by the need to verify the level of stress experienced by nursing students in performing theoretical and practical activities of

Cienc Cuid Saude. 2022;21:e59265
The participant could choose only one of the answers, then, for each item on the scale: I do not experience the situation (scoring 0), I do not feel stressed with the situation (scoring 1), I feel little stressed with the situation (scoring 2) or I feel very stressed with the situation (scoring 3). The instrument guides the interpretation of the results obtained based on the score for each item of the domains, according to Table 1:

**Chart 1. Rating of stress levels in each domain.**

<table>
<thead>
<tr>
<th>Domains</th>
<th>SANS Items</th>
<th>Sum of Scores</th>
<th>Stress Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain 1 - Carrying out Practical Activities</td>
<td>4, 5, 7, 9, 12, 21</td>
<td>0-9</td>
<td>Low stress level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10-12</td>
<td>Medium stress level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13-14</td>
<td>High level of stress</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15-18</td>
<td>Very high level of stress</td>
</tr>
<tr>
<td>Domain 6 - Theoretical Activity</td>
<td>2, 10, 13, 14, 28</td>
<td>0-9</td>
<td>Low stress level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10-11</td>
<td>Medium stress level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12-13</td>
<td>High level of stress</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14-15</td>
<td>Very high level of stress</td>
</tr>
</tbody>
</table>

**Source:** COSTA; POLAK, 2009(1).

The data were tabulated in a spreadsheet (Microsoft Excel) and analyzed descriptively with the support of the statistical package SPSS version 22.0, according to fashion and the upper and lower percentiles of the fashion recorded for the variables of each domain. We chose to present the fashion, because it makes it possible to identify the prevalence of responses given by students and the lower and higher percentiles than fashion, in order to analyze the distribution of responses and the behavior of the participants in each variable.

The study followed Resolution n. 466/2012 of the National Health Council and was approved by the Research Ethics Committee of the Federal University of Mato Grosso do Sul, under Protocol n. 3.937.357.

**RESULTS**

**Table 1. Distribution of students according to sociodemographic/academic variables and level of stress in carrying out practical activities – Coxim, MS, Brazil, 2020. (N=142)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Domain 1 - Carrying out practical activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>33</td>
</tr>
<tr>
<td>Male</td>
<td>11</td>
</tr>
<tr>
<td>Age &lt; 20 years</td>
<td>11</td>
</tr>
<tr>
<td>Age between 20 and 24 years</td>
<td>18</td>
</tr>
<tr>
<td>Age &gt; 29 years</td>
<td>4</td>
</tr>
<tr>
<td>Self-reported skin color</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>12</td>
</tr>
<tr>
<td>Brown</td>
<td>28</td>
</tr>
<tr>
<td>Black</td>
<td>-</td>
</tr>
<tr>
<td>Yellow</td>
<td>1</td>
</tr>
</tbody>
</table>

To be continued...
According to Table 2, regarding the performance of theoretical activities of academic training, nursing students who lived in stable union (40.0%), religious (37.5%) and matriculated in the sixth semester of the course (37.5%), presented high stress level. The level of stress in performing theoretical activities among students of the eighth and tenth semesters of the nursing course decreased compared to that recorded for students from other semesters.

Table 2. Distribution of students according to sociodemographic/academic variables and level of stress in carrying out theoretical activities – Coxim, MS, Brazil, 2020. (N=142)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Domain 6 - Theoretical activity</th>
<th>Low</th>
<th>Medium</th>
<th>High</th>
<th>Very High</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td>38</td>
<td>31.7</td>
<td>30</td>
<td>25.0</td>
<td>32</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td>10</td>
<td>45.5</td>
<td>6</td>
<td>27.3</td>
<td>5</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 20 years</td>
<td></td>
<td>7</td>
<td>25.9</td>
<td>8</td>
<td>29.6</td>
<td>9</td>
</tr>
<tr>
<td>Between 20 and 24 years</td>
<td></td>
<td>23</td>
<td>32.9</td>
<td>12</td>
<td>17.1</td>
<td>21</td>
</tr>
<tr>
<td>Between 25 and 29 years</td>
<td></td>
<td>7</td>
<td>30.4</td>
<td>10</td>
<td>43.5</td>
<td>3</td>
</tr>
<tr>
<td>&gt; 29 years</td>
<td></td>
<td>11</td>
<td>50.0</td>
<td>6</td>
<td>27.3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Self-reported skin color</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td></td>
<td>14</td>
<td>35.0</td>
<td>7</td>
<td>17.5</td>
<td>13</td>
</tr>
<tr>
<td>Brown</td>
<td></td>
<td>29</td>
<td>35.4</td>
<td>22</td>
<td>26.8</td>
<td>21</td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td>2</td>
<td>13.3</td>
<td>6</td>
<td>40.0</td>
<td>2</td>
</tr>
<tr>
<td>Yellow</td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td></td>
<td>37</td>
<td>33.9</td>
<td>27</td>
<td>24.8</td>
<td>30</td>
</tr>
<tr>
<td>Married</td>
<td></td>
<td>5</td>
<td>25.0</td>
<td>8</td>
<td>40.0</td>
<td>2</td>
</tr>
<tr>
<td>Stable union</td>
<td></td>
<td>1</td>
<td>20.0</td>
<td>1</td>
<td>20.0</td>
<td>2</td>
</tr>
<tr>
<td>Separated/divorced</td>
<td></td>
<td>3</td>
<td>100.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*Individual income based on the 998.00BRL minimum wage.

Source: Created by the authors for research purposes.
Religion
- Very religious: 6, 37.5%
- Religious: 26, 30.2%
- Little religious: 9, 32.1%
- No religion: 5, 55.6%

Origin
- Studied municipality: 45, 33.6%
- Other municipality: 3, 37.5%

Children
- Yes: 10, 32.3%
- No: 38, 34.2%

Paid work
- Yes: 9, 36.0%
- No: 39, 33.3%

Individual income*
- No income: 10, 45.5%
- < 1: 12, 30.0%
- ≥ 1 and < 2: 6, 27.3%
- ≥ 2: 3, 100.0%

Semester
- 2nd semester: 13, 40.6%
- 4th semester: 8, 30.8%
- 6th semester: 8, 25.0%
- 8th semester: 10, 33.3%
- 10th semester: 9, 40.9%

Table 3. Distribution of students according to stress level classification based on items present in each domain – Coxim, MS, Brazil, 2020. (N=142)

acquired little knowledge to take practical tests (52.1%) stood out as inherent to the practical activities experienced with very high level of stress by the students. The stress factors related to the performance of theoretical activities, mandatory to perform extra-class work (41.5%) and feeling insecurity or fear when taking theoretical tests (44.7%) emerged with very high stress level.

The results shown in Table 3 showed that the factors being afraid of making mistakes during patient care (57.4%) and feeling that they acquired little knowledge to take practical tests (52.1%) stood out as inherent to the practical activities experienced with very high level of stress by the students. The stress factors related to the performance of theoretical activities, mandatory to perform extra-class work (41.5%) and feeling insecurity or fear when taking theoretical tests (44.7%) emerged with very high stress level.
whose fashion value, added to its upper percentile, presents a distribution concentration for high and very high levels of stress: new situations that you may experience in clinical practice (72.5%), a form adopted to evaluate theoretical content (71.6%) and assimilation of theoretical-practical content in the classroom (71.1%).

**DISCUSSION**

According to the results, students in a stable union who were in the sixth semester presented higher levels of stress in the performance of theoretical-practical activities of the nursing course. Studies conducted in different contexts showed an association between stress in nursing students, marital status and current semester\(^{(12-15)}\). These findings indicate higher levels of stress among students who live in a stable union or who are married and who are enrolled in the last year of graduation\(^{(15)}\).

Another study identified that married students and individuals living with partners have higher percentages of stress perception than single and divorced students. This discovery may be related to the possibility of an increase in responsibilities and concern to reconcile studies and family expenses between married people and those who reside with their partners. In addition, there may also be a need to manage time in order to perform home, family and academic activities\(^{(15)}\).

Several studies have demonstrated a statistically significant relationship between marital status and stress manifestations. However, authors recommend caution in the generalization of these results and suggest studies on the physical and psychological processes that trigger stressful situations in nursing students, taking into account the variable marital status\(^{(14)}\).

Scholars showed very high (35.5%) and high (46.6%) levels of stress related to the performance of practical activities among sixth-semester students when they analyzed stress levels among nursing students in their respective semesters. These researchers also perceived that the frequency of low stress becomes more intense during the semesters\(^{(16)}\).

A study showed the relationship between stress levels and progress in the semesters of formation. According to this research, there is a higher level of stress between the fourth and sixth semesters. These results may be associated with the beginning of practical activities and closer contact with users of health services, since this interval requires greater practical skill associated with theoretical knowledge\(^{(60)}\).

In addition to the beginning of practical activities, various situations – such as: fear of making mistakes during nursing care, insecurity in the execution of techniques, overload of academic work, challenges in communication with users and professionals of health services, handling of complex equipment, contact with suffering and death of patients - associated with other factors - such as relationship with colleagues and teachers, shorter time for leisure activities - can be configured as additional stressors to the physical and psychological exhaustion experienced by this population in these semesters\(^{(13,17-21)}\).

According to the present study, there was a decrease in stress levels during the last semesters of nursing education. These results confirm findings from two other studies, which also indicated a decrease in stress levels during the last semesters of the course compared to the other semesters. Despite the peculiarities of the theoretical and practical activities of the last year of the course in question, namely: elaboration of the work of completion of the course in question, namely: execution of the supervised curricular internship and approximation of insertion in professional life, it is assumed that nursing students develop mechanisms to face stress throughout the formative process. In addition, this finding may be related to greater safety during the performance of practical activities, which involve direct care to the patient, in different degrees of complexity; commitment and maturity of the student; identification with the course and profession; and ability to perform activities necessary for the routine of health services\(^{(16,17)}\).

By considering the dimensions of the activities inherent to nursing education that are often related to a higher level of university stress, we can highlight the perception about the relationship between theoretical knowledge acquired in the course and future professional...
performance, the way adopted to evaluate the theoretical content, the degree of difficulty in performing extra-class work and the feeling of not having acquired sufficient knowledge to take the practical test. These factors contributed to the emergence of the feeling of insecurity and unpreparedness, which can function as stressors given the new practices that require skill and experience\(^{(22)}\).

Among the activities often indicated as stress generators in nursing education, researchers point to the elaboration of the Course Completion Work, the realization of evaluations and internships. According to the student perspective, the deadline for the development of such activities is short, a fact that generates overload and feeling of collection, as well as excessive pressure when seeking to meet such requirements. Thus, the performance of activities inherent to the teaching-learning process is perceived as a stressing factor\(^{(23)}\).

Scholars highlight aspects, such as: the characteristics of the internship fields (distance from the student's home, routine services and professionals working in them), the performance of practical work and evaluations, and the development of technical skills\(^{(3)}\) as stressors related to practical activities. Other researchers have evidenced the relationship between moderate level of stress and situations of clinical practice, especially with regard to the lack of competence to perform such practices and management of work overload\(^{(24)}\).

An investigation pointed out a higher level of stress related to the fear of making mistakes during the care provided to the patient, this finding shows the recognition of the risks inherent to nursing care as a stressor\(^{(20)}\). Another study showed that, as students advance in the nursing course, more responsibilities and skills are required of them. Therefore, practical activities represent stressors, if we take into account factors such as little experience with collective work, challenges in the relationship with the health teams of the services in which they perform their internships, the process of developing skills and fear of failing to perform techniques\(^{(25)}\).

This investigation has important limitations to be highlighted. The cross-sectional design and non-probabilistic sampling adopted do not allow the establishment of cause and effect relationships. Moreover, the exclusively descriptive analysis prevents the establishment of an association between the variables studied and the fact that the research was conducted in a single higher education institution does not allow the generalization of the results.

**CONCLUSION**

The study verified stressors experienced by nursing students in performing theoretical and practical activities of academic training, with emphasis on fear of making mistakes during patient care, feeling of having acquired little knowledge to take practical tests, insecurity or fear of taking theoretical tests and mandatory to perform extra-class work.

The results can help nursing colleges in the elaboration of preventive interventions for mental disorders, focusing on stress management and coping. It is important that such actions are integrated into the academic environment and that they consider the pedagogical and curricular characteristics of the course, since the participation of students in curricular and extracurricular activities can hinder the search for adequate support for them.

Further studies should be conducted on the subject in order to provide greater theoretical support about the understanding of the phenomenon studied, the association between variables and the comparison with data obtained from other scenarios.
posteriormente, analizados de manera descritiva, segundo a moda e percentis superiores e inferiores à moda das variáveis. **Resultados:** medo de cometer erros durante a assistência ao paciente (57,4%), sentimento de ter adquirido pouco conhecimento para fazer provas práticas (52,1%), insegurança ou medo de fazer provas teóricas (44,7%) e obrigatoriédade de realizar trabalhos extraclasse (41,5%) foram fatores que provocaram níveis muito altos de estresse entre os estudantes. **Conclusão:** os resultados podem auxiliar faculdades de Enfermagem no planejamento e fortalecimento de intervenções preventivas com foco no gerenciamento do estresse e seu enfrentamento.

**Palavras-chave:** Enfermagem. Estresse de enfermagem. Estresse psicológico. Fatores de risco. Saúde mental

---

**FACTORES DE ESTRÉS EN ESTUDIANTES DE ENFERMERÍA EN LA REALIZACIÓN DE ACTIVIDADES TÉORICO-PRÁCTICAS DE LA FORMACIÓN ACADÉMICA**

**RESUMEN**

**Objetivo:** verificar los factores de estrés comúnmente experimentados por estudiantes del curso de Enfermería en la realización de actividades teóricas y prácticas de la formación académica. **Método:** estudio descriptivo, transversal, desarrollado con 142 discentes del curso de Enfermería de una universidad pública ubicada en Mato Grosso do Sul, Brasil. Los datos fueron recogidos en febrero de 2020 a través de cuestionario sociodemográfico/académico y de la escala de Evaluación de Estrés en Estudiantes de Enfermería y, posteriormente, analizados de manera descriptiva, según la moda y percentiles superiores e inferiores a la moda de las variables. **Resultados:** medio de cometer errores durante la atención al paciente (57,4%), sentimiento de haber adquirido poco conocimiento para hacer pruebas prácticas (52,1%), inseguridad o medo de hacer pruebas teóricas (44,7%) y obligatoriedad de realizar trabajos extraclase (41,5%) fueron factores que provocaron niveles muy altos de estrés entre los estudiantes. **Conclusión:** los resultados pueden auxiliar facultades de Enfermería en la planificación y fortalecimiento de intervenciones preventivas con enfoque en el manejo del estrés y su enfrentamiento.

**Palabras clave:** Enfermería. Estudiantes de enfermería. Estrés psicológico. Factores de riesgo. Salud mental.

---

**REFERENCES**


Stress factors in Nursing students in the realization of theoretical-practical activities of academic training


Corresponding author Helder de Pádua Lima. Avenida Márcio de Lima Nantes S/N, Vila da Barra, Estrada do Pantanal. Coxim. Mato Grosso do Sul. CEP 79400-000. (85) 996403127. padua_helder@hotmail.com

Submitted: 06/08/2021
Accepted: 02/04/2022