






STRESS AND COPING STRATEGIES USED BY NURSING INTERNS

ESTRESSE E ESTRATÉGIAS DE COPING UTILIZADAS POR RESIDENTES DE ENFERMAGEM

ESTRÉS Y ESTRATEGIAS DE AFRONTAMIENTO UTILIZADAS POR RESIDENTES DE ENFERMERÍA

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Funding: No funding.

Submitted on: 2020/02/10

Approved on: 2020/05/30

ABSTRACT

Objective: to investigate the stress level of Nursing interns in hospital units and the coping strategies adopted. **Method:** this is a cross-sectional and quantitative study conducted with Nursing interns working in hospital units. Data collection took place from December 2018 and July 2019 using a sociodemographic questionnaire, the instrument for the assessment of stress in Nursing students, and the adaptation to Portuguese of the Folkman and Lazarus Coping Strategies Inventory instrument. Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS) program, version 23. **Results:** a total of 88 interns from eight different areas participated in this study. In the stress analysis, 56% of the interns had less stress, and 44% more stress. There was an association between more stress and the gender variable (p-value=0.001). The interns reported more stress in the professional communication and professional training domains. The most frequently used coping strategies were positive reappraisal, responsibility acceptance, and social support. When adjusted by gender, a significant association was verified between more stress and the following coping strategies: confrontation (p-value=0.002), distancing (p-value=0.001), self-control (p-value=0.040), and escape-avoidance (p-value=0.019). **Conclusion:** the interns presented more stress related to professional communication and professional training, and there was an association between more stress and the following coping strategies: confrontation, distancing, self-control, and escape-avoidance, when adjusted by gender. The findings signal that this issue requires attention from the training institutions and encourage a reflection on the interns' life context, insertion scenarios, and experiences.

Keywords: Internship and Residency; Occupational Stress; Stress, Psychological; Education, Nursing; Adaptation, Psychological.

RESUMO

Objetivo: investigar o nível de estresse de residentes de Enfermagem em unidades hospitalares e as estratégias de coping adotadas. **Método:** estudo transversal, quantitativo, realizado com enfermeiros residentes com atuação em unidades hospitalares. A coleta de dados deu-se entre dezembro de 2018 e julho de 2019, aplicando-se questionário de caracterização sociodemográfica, instrumento de avaliação do estresse em estudantes de Enfermagem e instrumento de adaptação do Inventário de Estratégias de Coping de Folkman e Lazarus para o português. Para a análise estatística utilizou-se o programa Statistical Package for Social Sciences (SPSS) versão 23. **Resultados:** participaram desta pesquisa 88 residentes de oito áreas diferentes. Na análise do estresse 56% tinham menos estresse e 44% mais estresse. Teve associação com mais estresse a variável sexo (p-valor=0,001). Os residentes apresentaram mais estresse nos domínios comunicação profissional e formação profissional. As estratégias de coping mais empregadas foram as de reavaliação positiva, aceitação de responsabilidade e suporte social. Verificou-

How to cite this article:

Menegatti MS, Rossaneis MA, Schneider P, Silva LGC, Costa RG, Haddad MCFL. Stress and coping strategies used by Nursing interns. REME - Rev Min Enferm. 2020[cited ____];24:e-1329. Available from: _____ DOI: 10.5935/1415-2762.20200066

se significativa associação entre mais estresse e estratégias de coping de confronto (p -valor=0,002), afastamento (p -valor=0,001), autocontrole (p -valor=0,040) e fuga e esquiva (p =0,019), quando ajustadas por sexo. **Conclusão:** os residentes apresentaram mais estresse relacionado a comunicação profissional e formação profissional e houve associação entre mais estresse e as estratégias de coping de confronto, afastamento, autocontrole e fuga e esquiva, ajustadas por sexo. Os achados sinalizam a necessidade de atenção das instituições formadoras e instigam à reflexão sobre o contexto de vida, os cenários de inserção e as vivências dos residentes.

Palavras-chave: Internato e Residência; Estresse Ocupacional; Estresse Psicológico; Educação em Enfermagem; Adaptação Psicológica.

RESUMEN

Objetivo: investigar el nivel de estrés de los residentes de enfermería en unidades hospitalarias y las estrategias de afrontamiento adoptadas. **Método:** estudio transversal, cuantitativo, realizado con enfermeros residentes que desempeñan sus tareas en unidades hospitalarias. La recogida de datos se realizó entre diciembre de 2018 y julio de 2019, utilizando un cuestionario de caracterización sociodemográfica, un instrumento para evaluar el estrés en estudiantes de enfermería y un instrumento para la adaptación al idioma portugués del Inventario de Estrategias de Afrontamiento de Folkman y Lazarus. Para el análisis estadístico se utilizó el Statistical Package for Social Sciences (SPSS) versión 23. **Resultados:** 88 residentes de ocho áreas diferentes participaron en esta investigación. En el análisis del estrés, el 56% tenía menos estrés y el 44% más estrés. La variable de género se asoció con más estrés (valor de $p = 0,001$). Los residentes sintieron más estrés en los dominios de la comunicación profesional y de la formación profesional. Las estrategias de afrontamiento más utilizadas fueron la reevaluación positiva, la aceptación de la responsabilidad y el apoyo social. Hubo una asociación significativa entre más estrés y estrategias de confrontación (valor $p = 0,002$), retraimiento (valor $p = 0,001$), autocontrol (valor $p = 0,040$) y escape y evitación ($p = 0,019$), cuando ajustado por sexo. **Conclusión:** los residentes tenían más estrés relacionado con la comunicación profesional y la formación profesional y existía una asociación entre más estrés y estrategias de afrontamiento, retraimiento, autocontrol y escape y evitación, ajustadas por sexo. Los hallazgos señalan la necesidad de atención por parte de las instituciones educativas y fomentan la reflexión sobre el contexto de vida, los escenarios de inserción y las vivencias de los residentes.

Palabras clave: Internado y Residencia; Estrés Laboral; Estrés Psicológico; Educación en Enfermería; Adaptación Psicológica.

INTRODUCTION

Stress is a complex event that occurs in the interaction between individuals and their inner and outer environments, having an impact on biopsychosocial aspects.¹ Occupational stress is one of the most prevalent type among adults and can be found early in their careers, since work occupies most of their time and

represents much of their social interactions, and they are not always prepared to cope with difficulties inherent to their jobs.²

The International Labor Organization highlights that stress leads to many consequences for the workers' lives, contributing to the development of both psychological and physical conditions and having an influence on the consumption of legal and illegal substances.³ The consequences of stress and its causal factors may affect the workers' family and social interactions and have costs for the employers in terms of reduced productivity and increased staff turnover.⁴

The reality of health care professionals involves dealing with others' anguish and suffering; moreover, they experience the consequences of devaluation, low pay, and multiple employment contracts, situations that can have a negative impact on the well-being of these professionals.^{5,6} Immersed in this challenging environment, health care interns have to balance their practice routine with theoretical specialization activities that require satisfactory performance and may also be considered a conditioning factor for stress.⁷

Internships provide experiences that are of great importance for the professional and personal life of the interns; however, these programs may demand hard effort, leave little time for breaks and leisure due to extensive workload, and require dedication to acquire new knowledge and commitment with the different actors participating in the interns' daily life, including colleagues, professors, and users of the services; moreover, the interns have to deal their own insecurities and frustrations.⁸

Stressful events can have an impact on personal, professional and academic life, thus requiring the use of appropriate strategies to reduce, deal with, or solve a problem.¹ These strategies prevent that negative events result in physical or psychological damage and involve a process of adaptation that mediates the interaction between the individual and the stressor.⁹ This repertoire of actions aimed at dealing with stressful factor or its consequences is called coping.¹

The coping actions can be problem-focused or emotion-focused. Problem-focused coping involves an effort to control or eliminate the origin of stress, for example, by mediating to resolve disagreements, accepting suggestions and contributions from colleagues to improve the activities developed, or reinterpreting the causal factor. In turn, emotion-focused coping concentrates on actions targeted at the somatic aspects, those in which the individual avoids the causal factor and will not act to modify it. Examples: sleeping, praying, or ignoring the problem.¹⁰

This study is justified by the numerous consequences of stress on the Nursing workers and also by the importance of improving knowledge on the interns' levels of stress and on the coping actions they use, thus providing information that enables internship programs to develop strategies to control and deal with stress, such as guidance towards efficient and resolute actions.

Considering that Nursing interns can present increased stress levels during specialization and that Nursing students tend to develop coping strategies aimed at avoiding confrontation with

the stressor, we hypothesize that the Nursing interns working at hospitals may have high stress levels and not develop appropriate coping strategies for stress management.^{1,11}

Therefore, this research aimed to investigate the stress level of Nursing interns at hospital units and the coping strategies adopted.

METHOD

This is a cross-sectional and quantitative study conducted with 88 first and second year Nursing interns working in hospital units and from different specialization areas, namely: Intensive Care, Nursing Service Management, Infectology, Neonatology, Obstetrics, Child's Health, Perioperative Care, and Urgency and Emergency Care.

The Nursing internship programs last for two years and offer full-time activities. The interns' workload totals 60 hours per week, of which 80% consists of practical activities and 20% of theoretical activities.

The inclusion criteria were being a nurse duly enrolled in one of the Nursing internship programs, and working in a high-complexity public university hospital in northern Paraná, Brazil. The exclusion criterion was the following: interns who were absent during the data collection period due to vacation, medical certificate, or leave.

Data collection was conducted from December 2018 to July 2019 using printed forms or an online platform that could be accessed both on smartphones and computers, according to the participant's preference, and approximately 67% of the respondents answered the online questionnaire. Study invitations were sent by email, which was an important strategy to reach the greatest number of individuals, since their specialization areas have different schedules, with sometimes divergent timetables, departments, services, and cities, which made it difficult for the researchers to hold a face-to-face meeting with some interns.

After the interns accepted to participate in the study and signed the Free and Informed Consent Form (FICF), a sociodemographic characterization questionnaire was applied, as well as another two instruments: the Instrument for the Stress Assessment in Nursing Students (*Avaliação do Estresse em Estudantes de Enfermagem* - AEEE) and the Adaptation to Portuguese of the Folkman and Lazarus Coping Strategies Inventory.^{12,13}

The sociodemographic characterization questionnaire was designed by the authors and included the following variables: age, gender, self-reported skin color, religion, marital status, children, monthly *per capita* income, monthly family income, and specialization area.

The AEEE instrument contains 30 items measured on a Likert scale. The scores for each item range from zero to three, with zero meaning absence of stress in the situation depicted in the item and three meaning high stress level in the situation. The scores for low, medium, high, and very high stress levels were calculated based on the sum of the stress intensity numbers reported in the items of each domain, namely: environment, performance of practical activities, professional communication, time management,

professional training, and theoretical activity.¹² For data analysis, the stress levels were dichotomized into less stress (low and medium stress) and more stress (high or very high stress).

The Folkman and Lazarus Coping Strategies Inventory is a four-point Likert questionnaire with eight dimensions: confrontation, distancing, self-control, social support, responsibility acceptance, escape-avoidance, problem solving, and positive reappraisal.¹³ The interpretation of the results was performed from the sum of classification scores, with zero to represent that the strategy is not used and three for the strategy being widely used. For interpretation of the results, these were classified into lesser use of the coping strategy (values up to 50% of the maximum score in each factor) and greater use of the coping strategy (values above 50% of the maximum score in each factor).

The application of the Cronbach's alpha statistical test verified the reliability of the instruments for applying them to the population, with 0.887 for the AEEE and 0.926 for the Adaptation to Portuguese of the Folkman and Lazarus Coping Strategies Inventory.

Sample loss was estimated at approximately 3% of the population, considering the undelivered emails and the unreturned or incomplete forms.

The statistical analysis of the results was performed using the Statistical Package for Social Sciences (SPSS) program, version 23. A bivariate analysis was performed of the socioeconomic variables and coping strategies with "more stress", and the variables with $p < 0.20$ were included in the adjusted model. The statistical association between "more stress" and the coping strategies was analyzed using Poisson's regression, with the Prevalence Ratio (PR) being the association measure, and the statistical significance being established by Wald's chi-square test. The significance value adopted in the analyses performed was a p -value < 0.05 .

This research was approved by the Research Ethics Committee of the *Universidade Estadual de Londrina*, with Certificate of Presentation for Ethical Approval (*Certificado de Apresentação para Apreciação Ética* - CAAE): 03476918.2.0000.5231.

RESULTS

A total of 88 Nursing interns accepted to participate in this research; of these, 26% (23) were from Nursing Service Management, 12.5% (11) from Neonatology, 12.5% (11) from Perioperative Care, 12.5% (11) from Obstetrics, 10.2% (9) from Child's Health, 10.2% (9) from Urgency and Emergency Care, 9.1% (8) from Intensive Care, and 6.8% (6) from Infectology.

The majority of the participants, 83% (73), were women; 70.5% (62) self-declared as white-skinned; 84.1% (74) had a religion; 39.8% (35) did not have a partner; and 97.7% (86) did not have any children. The mean age was 24 years old, and 59.1% (52) were aged 24 years old or younger. The mean monthly family income was R\$ 5,096.14, and the mean monthly *per capita* income was R\$ 3,330.00.

The analysis of the overall stress score of the interns showed that 56% had less stress and that 44% had more stress. The association between the socioeconomic data and stress is shown in Table 1.

Table 1 - Association between the sociodemographic variables and the prevalence of more stress in Nursing interns. Londrina, Paraná, 2020

Sociodemographic Variable	More Stress		Gross PR (95% CI)	p-value
	N	%		
Gender				
Female	37	50.7	1.33 (1.12-1.57)	<0.001
Male	02	13.3		
Skin color				
White	30	48.4	1.10 (0.94-1.29)	0.232
Non-white	09	34.6		
Religion				
Yes	36	48.6	1.22 (1.00-1.48)	0.04
No	03	21.4		
Age				
≤ 24 years old	25	48.1	1.06 (0.92-1.23)	0.392
≥ 25 years old	14	38.9		

Source: Elaborated by the authors, 2020.

In the study of the sociodemographic variables, a significant association was revealed between stress and gender in the bivariate analysis (PR=1.33; 95% CI=1.12-1.57; p-value=0.001), with the female gender showing prevalence of more stress compared with men; however, the religion variable (PR=1.22; 95% CI=1.00-1.48; p-value=0.04) was not considered as with any statistical association, as it presented a confidence interval equal to 1.

The stress intensity in each domain of the AEEE was also analyzed, with the results presented in Table 2. The professional communication and professional training domains stood out, reaching values of 54% and 68% of the interns, respectively.

Table 2 - Distribution of the interns according to stress intensity by domain. Londrina, Paraná, 2020

Domain	Less stress	More stress
	%(n)	%(n)
Performance of practical activities	72 (63)	28 (25)
Professional communication	46 (41)	54 (47)
Time management	63 (56)	37 (32)
Environment	89 (78)	11 (10)
Professional training	32 (28)	68 (60)
Theoretical activities	90 (79)	10 (9)

Source: Elaborated by the authors, 2020.

Table 3 shows the distribution of the scores for the coping strategies used by the interns, where it can be highlighted that the most frequently used strategies was positive reappraisal (14.53%), followed by responsibility acceptance (12.61%) and by social support (10.42%).

Table 3 - Distribution of the scores of the coping factors presented by the interns. Londrina, Paraná, 2020

Coping strategies	Minimum	Median	Maximum	Mean	Standard deviation
Escape-avoidance	0	4.00	6	3.39	1.841
Confrontation	0	6.00	11	6.03	2.942
Problem solving	0	7.00	12	6.65	2.622
Self-control	0	8.00	14	7.98	2.792
Distancing	1	8.00	18	8.23	3.756
Social support	2	10.50	17	10.42	3.362
Responsibility acceptance	0	13.00	21	12.61	4.279
Positive reappraisal	0	14.50	25	14.53	5.083

Source: Elaborated by the authors, 2020.

After adjustment by the gender variable, a significant association between the interns with more stress and the following coping strategies was verified: confrontation (PR=0.79; 95% CI=0.69-0.92; p-value=0.002), distancing (PR=0.81; 95% CI=0.71-0.92; p-value=0.001), self-control (PR=0.86; 95% CI=0.75-0.99; p-value=0.040), and escape-avoidance (PR=0.85; 95% CI=0.74-0.97; p-value=0.019).

DISCUSSION

The sociodemographic findings of this study show that the mean age of the interns interviewed was 24 years old, which was similar to the mean of 25 years old obtained in a research study conducted in 2018, but below the predominant age group in a study with interns from other health care fields (25 to 29 years old).⁷¹⁴ Such finding may be explained by the fact that most of our participants are recently-graduated students who were immediately admitted to this post-graduate modality. Despite this characteristic, the bivariate analysis between age and more stress did not present statistical significance.

Considering the frequency analysis of the overall stress scores, it was found that that 44% of the interns reported more stress. This result is similar to that of a Brazilian study with multi-professional interns, in which 49% indicated high stress, but is lower than that of a study conducted in the Southeast region, where 78.9% of

Table 4 - Association between the coping strategies and the prevalence of more stress in Nursing interns. Londrina, Paraná, 2020

Coping strategy	More stress		Gross PR (95% CI)	p-value	Adjusted PR* (95% CI)	p-value
	n	%				
Confrontation	12	30.8	0.68 (0.54-0.87)	0.002	0.79 (0.69-0.92)	0.002
Distancing	18	46.2	0.70 (0.56-0.86)	0.001	0.81 (0.71-0.92)	0.001
Self-control	27	69.2	0.83 (0.67-1.02)	0.07	0.86 (0.75- 0.99)	0.040
Social support	26	66.7	0.92 (0.74-1.14)	0.46		
Responsibility acceptance	31	79.5	0.86 (0.68-1.07)	0.18	0.88 (0.75-1.04)	0.145
Escape-avoidance	26	66.7	0.80 (0.65-0.98)	0.03	0.85 (0.74-0.97)	0.019
Problem solving	20	51.3	1.10 (0.89-1.36)	0.34		
Positive reappraisal	27	69.2	0.81 (0.66-0.99)	0.04	0.88 (0.77-1.02)	0.084

*Adjusted by sex.

Source: Elaborated by the authors, 2020.

the participants reported stress signs and symptoms, and a lower percentage than that of medical interns in Saudi Arabia, with high stress (69.2%).^{7,14,15}

It is highlighted that 56% of the interns presented less stress, which means that this disorder was present in a low or medium level and that it can be related to the use of effective coping strategies or to the specialization period when some respondents answered the questionnaire. A 2016 study showed that the interns' stress progressively increased throughout the first year, with worsening in certain phases.¹¹

Participating in a specialization program with a high workload of theoretical and practical activities demands effort and high productivity. Unlimited dedication to achieve high performance and increased appreciation conditions the individuals to go beyond the beneficial limit and makes them suffer consequences for their health and professional performance.²

The assessment of the association between sociodemographic characteristics and stress presented significance for the gender variable, a result similar to that of a study which found an association between stress with only the gender and nationality variables.¹⁵

Among the participants, 83% were female, which coincides with the results of a research study conducted in the South of the country with multi-professional interns and reinforces the increased active participation of women in the health care workforce.^{7,14} The analysis of the prevalence of stress revealed more stress among the female interns (50.7%) than among the male participants (13.3%), which can be the result of the coexistence of professional duties with attributions assigned exclusively to women by the family circle and by society.¹¹

In the analysis of the domains, more stress was signaled in the professional communication and professional training categories. The first involves issues like difficulties in communicating with the other professionals working in the service and the resulting conflicts, being related to feelings of dissatisfaction.¹⁶ The second refers to aspects such as the interns' concern with their acquired knowledge and its impact on their practical performance, that is, professional responsibility, which can be related to the stress they experience.¹⁷

With regard to the coping factors, the most frequently used were positive reappraisal, responsibility acceptance, and social support, a result similar to that found in a study with the Nursing team in which that the main strategies used were problem solving, positive reappraisal, and social support.¹⁸ The fact that the problem solving strategy was not one the most used by the interns can be related to their limited autonomy and to their own social support, characterized by the support and direct action of the field preceptor professionals in immediate problem resolution.

It is highlighted that there is no coincidence between the strategies most used by the interns and those significantly associated with more stress. In the assessment of the interns with more stress, the coping strategies with a significant association after adjustment by gender were confrontation, distancing, self-control, and escape-avoidance. Such findings suggest that these strategies minimize the occurrence of stress and that, the more they are used, the fewer are the consequences in the work environment.¹⁹

However, these data are contrary to those of another study, in which confrontation was not either the most effective strategy or the most used by the Nursing workers, ranking behind problem solving and social support, both with no statistical significance in the tests herein presented.²⁰ Confrontation is a strategy strictly focused on the problem and on the ability of the individual to resolve the stressors. Of the four strategies that were associated with more stress, it is the only one with this characteristic.¹⁰

Distancing actions are related to withdrawing from the situation in which stress occurs. In this case, the individuals are immersed in a stressful situation and try to find a way to distance themselves from those events. Several findings signal that these actions are the most used by students who feel less identified with the profession.²¹

Self-control actions are those in which the individual reflects on how to act and on what to say, avoiding mistaken behaviors and not letting others perceive the real situation, which is a self-protective attitude.¹⁸ The attitude of weighing the scenario and the conditions involving the stressful factor helps the interns to

safeguard themselves from the consequences of the problem, both personal and professional.

The scape-avoidance strategy is recognized as the strategy most used by the Nursing students in a 2015 study, where the distancing strategy was also cited as the most used by the Nursing workers.^{19,21} By using this strategy, the interns avoid the stressor and the feelings it evokes and stop thinking or talking about it, which does not modify the stressful agent, which continues existing and can be experienced again by the intern at any time.¹⁹

It is highlighted that distancing, self-control, and escape-avoidance are emotion-focused strategies, that is, they all seek to avoid the physical and emotional discomfort generated by stress.²⁰ A research study conducted with Nursing professionals working in a university hospital showed a correlation between the emotion-focused strategies and the working hours, which is valid from the perspective of the interns who work 60 hours a week.²² Participating in a specialization program with an extensive workload of theoretical and practical activities demands high dedication and performance, which can impose a great physical and psychological burden on the individual.

Detrimental work circumstances, along with personal and professional situations like those mentioned in the stress domains, can make the nurses more susceptible to diseases.²³ It is important to highlight the need for a better understanding of the work-related illnesses in the working activities of the Nursing interns, as well as of the adequate response to this situation. An international research study found that most of the interns have never had access to programs and actions to help them manage and control stress appropriately.¹⁵

Coping has a dynamic aspect, can be effective for one problem but not for another, and is subjected to specific characteristics of each situation.²⁴ Therefore, it is understood that a coping strategy that was effective for a stressor may become ineffective after a certain moment, leading to reflect on a protective factor that can be insufficient to manage the continuous stressful situations throughout the two years of internship.

It is necessary to highlight the limitations of this study, such as the following: its cross-sectional design, which restricted knowledge of the changes in the stress level and domains to a certain period of the specialization; the non-assessment of stress by specialization area; and the non-identification of the subjects as first or second year interns in order to analyze aspects that could vary according to the internship period.

CONCLUSION

It is concluded that most of the interns reported less stress, although the number of subjects with more stress reached a high percentage. The interns presented more stress related to the professional communication and professional training domains. When adjusted by the gender variable, there was an association

between more stress and the following coping strategies: confrontation, distancing, self-control, and escape-avoidance.

The findings of this research signal important aspects concerning the process of Nursing training and specialization, which demand the attention of the training institutions and encourage reflection on the interns' life contexts, insertion scenarios, and experiences. In addition to reflecting, it is necessary to act by observing the interns' performance and behavior, listen to and value what they say, develop strategies and support to deal with stress and exhaustion, highlight and guide the use of efficient and resolute coping actions, both problem-focused and emotion-focused and, finally, contribute to improve the quality of life of these professionals.

A number of research studies aimed at investigating the stress levels by specialization area or among professionals working in other services of the health network, apart from using qualitative methods, may contribute to provide knowledge of others aspects of stress in the context of Nursing internships and to improve the understanding of the use of the coping strategies, as well as of the protective factors to be applied by these professionals.

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