

Occupational stress among nursing technicians and assistants: coping focused on the problem

Carla Araújo Bastos Teixeira¹

Sandra de Souza Pereira²

Lucilene Cardoso³

Maycon Rogério Selegim⁴

Leonardo Naves dos Reis⁵

Edilaine Cristina da Silva Gherardi-Donato⁶

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Objective. To analyze the association between strategies used to cope with occupational stress that are focused on the problem and the personal characteristics of nursing technicians and assistants. **Methods.** This quantitative and correlational study was conducted in a large teaching hospital in the São Paulo State, Brazil, in 2013. A randomized sample with 310 participants (198 nursing assistants and 112 nursing technicians) comprised the study population. Data were collected using a sociodemographic characteristics questionnaire and Scale of Ways of Coping with Problems. Data were submitted to univariate analysis, and variables with statistical significance ($p < 0.20$) were submitted posteriorly in a multiple regression model. **Results.** Most employees were women (76.1%) older than 40 years (67.7%), had nine to 11 years of formal education (73.5%), had a partner (58.7%), were Catholic (53.2%), and had children (74.5%). The final multiple regression model consisted of variable years of formal education and number of children. **Conclusion.** In this study, formal education and number of children were more strongly associated with a greater use of coping strategies focused on the problem. Such a strategy is related to minimal vulnerability to stress related to the working environment.

Key words: stress, psychological; nursing; burnout, professional; mental health.

El estrés laboral en auxiliares y técnicos de enfermería: afrontamiento centrado en el problema

Objetivo. Analizar la asociación entre el uso de estrategias de afrontamiento del estrés laboral centrado en el problema y las características personales de auxiliares y técnicos de enfermería. **Metodología.** Estudio cuantitativo y correlacional desarrollado en un hospital universitario del Estado de São Paulo, Brasil, en 2013. La muestra aleatoria fue constituida por 310 participantes (198 auxiliares y 112 técnicos de enfermería). Para la recolección de datos se utilizó un cuestionario acerca de las características

1 RN, Ph.D candidate. Escola de Enfermagem de Ribeirão Preto da Universidade São Paulo -EERP/USP- Fortaleza-CE, Brazil.

email: carlinhateixeira@usp.br

2 RN, Ph.D candidate. EERP/USP, Ribeirão Preto-SP, Brazil.

email: ssouzapereira@gmail.com

3 RN, Ph.D. EERP/USP, Ribeirão Preto-SP, Brazil. email: lucilene@eerp.usp.br

4 RN, Ph.D candidate. EERP/USP, Maringá-PR, Brazil.

email: mselegim@yahoo.com.br

5 RN, Ph.D candidate. EERP/USP, Ribeirão Preto-SP, Brazil.

email: leonareis1@hotmail.com

6 RN, Ph.D. EERP/USP, Ribeirão Preto-SP. email: nane@eerp.usp.br

Article linked to research: Estresse ocupacional e estratégias de enfrentamento entre a equipe de enfermagem em ambiente hospitalar.

Subventions: Fundação de Amparo a Pesquisa do Estado de São Paulo (FAPESP).

Receipt date: June 16, 2014.

Approval date: November 4, 2014.

How to cite this article: Teixeira CAB, Pereira SS, Cardoso L, Selegim MR, Reis LN, Gherardi-Donato ECSG. Occupational stress among nursing technicians and assistants: coping focused on the problem. Invest Educ Enferm. 2015; 33(1): 28-34

sociodemográficas y la Escala Modos de Enfrentamiento de Problemas de Vitalino y colaboradores. Los datos se sometieron al análisis bivalente y las variables con significación estadística ($p < 0.20$) fueron posteriormente analizadas en un modelo de regresión múltiple. **Resultados.** La mayoría de los trabajadores eran mujeres (76.1%), mayores de 40 años (67.7%), entre nueve y 11 años de estudio (73.5%), que viven con la pareja (58.7%), católicos (53.2%) y con hijos (74.5%). El modelo de regresión múltiple final estuvo compuesto por las variables años de escolarización y número de niños. **Conclusión.** En este estudio, la mayor escolarización y el número de hijos se asociaron con un alto uso de estrategias de afrontamiento centradas en los problemas, mostrando una menor vulnerabilidad a los factores de estrés en el trabajo.

Palabras clave: estrés psicológico; enfermería; agotamiento profesional; salud mental.

Estresse ocupacional entre auxiliares e técnicos enfermagem: enfrentamento focado no problema

Objetivo. Analisar a associação entre o uso de estratégias de enfrentamento ao estresse ocupacional focado no problema com características pessoais de auxiliares e técnicos de enfermagem. **Metodologia.** Estudo quantitativo e correlação, realizado em um hospital universitário de grande porte do Estado de São Paulo, Brasil, no ano de 2013. A amostra aleatória foi constituída por 310 participantes (198 auxiliares e 112 técnicos de enfermagem). Para a coleta dos dados foi utilizado um questionário com características sócio-demográficas e a Escala Modos de Enfrentamento de Problemas de Vitalino e colaboradores. Os dados foram submetidos à análise univariada e as variáveis com significância estatística ($p < 0.20$) foram posteriormente submetidas em um modelo de regressão múltipla. **Resultados.** A maioria dos trabalhadores eram mulheres (76.1%), maiores de 40 anos (67.7%), entre nove e 11 anos de estudo (73.5%), que vivem com companheiro (58.7%), católicas (53.2%) e com filhos (74.5%). O modelo de regressão múltipla final foi composto pelas variáveis anos de estudo e número de filhos. **Conclusão.** Neste estudo, a maior escolaridade e o número de filhos se associaram com um alto uso de estratégias de enfrentamento focadas no problema, mostrando uma menor vulnerabilidade as fatores de estresse ao trabalho.

Palavras chaves: estresse psicológico; enfermagem; esgotamento profissional; saúde mental.

Introduction

In the last decade, research on stress has increased for many reasons, including its negative effects on quality of life and occupational environment.¹ Stress is defined in many ways; however, in the context of the occupational environment, stress can be defined as a set of psychological disturbances and psychological suffering associated with work experiences that place physical and psychic demands on an individual in the professional environment.^{2,3} To study stress in an occupational context is important because, depending on degree of exposition and/or severity, this condition can lead professionals to get sick, causing absenteeism and poor work performance and otherwise harming both employee and employer.^{1,2,4} In this sense, nursing technicians

and assistants, primarily those working in a hospital environment, are at high risk for stress because they experience a heavy workload and are in direct contact with patients and families, as well as other related factors.¹ For this reason, increased knowledge of stress can help identify coping strategies that these professionals can use to promote health care, improve quality of their work performance, and enhance the quality of nursing care delivered.

Coping can be defined as an approach toward dealing with demands, both internal and external, that an individual considers to exceed his or her resources or abilities.^{5,6} Researchers have developed a model, based on a cognitivist

perspective, that categorizes coping into two dimensions: coping focused on the problem and coping focused on emotion.⁷ Coping focused on the problem aims to effect changes in the environment if the individual is able to control or modify stressful situations. In other words, the individual seeks to recognize the stressful agent and attempts to change or avoid it in the future.⁷ Coping focused on emotion aims to attenuate an individual's emotional discomfort if this discomfort is adequate to the emotional response to a stressful situation.⁷ Considering that coping incorporates determinant attitudes and conscientious attitudes that can be learned and that enable use and disposal according to need and identification of coping skills can enable the development of specific treatment actions for these professionals.⁷⁻⁹

The literature highlights the relevance of coping actions focused on the problem because these actions are more frequent and have been used by individuals to assess possibility of modifying or resolving stressful conditions or potential threats. The literature also points out that coping focused on the problem is related to particular characteristics of the individuals feeling stress.¹⁰ On the basis of the assumptions mentioned and considering that strategies focused on the problem are the most positive and helpful way to cope with stress, this study analyzed the relationship between coping strategies focused on the problem and sociodemographic characteristics of nursing professionals. We sought to elucidate which of these characteristics can provide more or less chance of use of the strategies of interest.

Methodology

This quantitative and correlational study was carried out between July 2012 and June 2013 at a large teaching hospital in São Paulo State, Brazil. We included a random sample of 198 nursing assistants and 112 technicians, totaling 310 employees. The participants had at least 1 year of service, could be male or female, and had

interest in participating in the study. Data were collected using two questionnaires: (1) one for such personal characteristics as sex (female or male), age (self-reported), formal education (up to eight years of study, of nine to 11 years, more than 12 years), marital status (with or without partner), religion (Catholic, Protestant, spiritist or undefined religion) and number of children, and (2) the Scale of Ways of Coping with Problems (SWCP), created by Vitaliano, Russo, Carr Maiuro and Becker (1985),¹¹ translated and validated to Brazilian Portuguese by Gimenes and Queiroz (1997)¹² and adapted by Seidl, Tróccoli and Zanon (2001).⁸

SWCP is composed of 45 items divided among four dimensions: coping focused on the problem, coping focused on emotion, seeking of social support, and seeking of religious practices.⁸ In this study, given the objective, we developed an analysis directed only toward the use of strategies focused on the problem. Answers on SWCP are given on a five-point Likert scale (1 = I never do; 5 = I always do that). The score for the dimension of interest (coping focused on the problem) is obtained by calculating the number of points for 18 items that make up this subscale of the instrument. From the score presented, which can range from 1 to 5, participants were categorized according to the level of use of coping strategies focused on the problem: high use (score ≤ 3.67) and low use (score > 3.67).⁸ The dichotomous variable "use of level of coping focused on the problem" was considered as a dependent variable (endpoint).

Data were initially submitted to bivariate analysis between the dependent variable and each of the independent variables. Subsequently, we selected independent variables with a p value < 0.20 to integrate into the final multiple regression model.¹³ After that, using a stepwise backward selection process, we excluded variables one by one that did not achieve a p value < 0.05 . After exclusion of each of these variables, we conducted a likelihood-ratio test comparing the full model with the model that excluded variables. After adjustment in the final model, we obtained

odds ratios (ORs) or ratio of chances concerning exposition factors.¹³ This study was approved by institutional where it was conducted and by the Ethical and Research Committee of the Nursing College of Universidade de São Paulo at Ribeirão Preto (number 23433). A limitation of this study was the exclusion of occupational variables concerning the working sectors of the study participants.

Results

Most participants in the study were women (76.1%), were older than age 40 years (67.7%), had completed secondary education (73.5%), were married (58.7%), were Catholic (53.2%), and had children (74.5%). Table 1 shows the association between use of strategies for coping with stress that are focused on the problem and sociodemographic characteristics of the nursing technicians and assistants according to

a bivariate analysis. In this step we included the following variables: sex, age, formal education, marital status, religion and number of children.

Multivariate analysis showed a positive association between level of formal education with adoption of strategies focused on the problem; the greater the level of formal education, the greater the association. We observed that participants with nine to 11 years of formal education were roughly five times as likely (OR=5.3) to use this type of strategy compared with who had up to eight years of formal education. However, those with 12 years of education were 7.6 times as likely to use such a strategy compared with less educated participants. Nine to 11 years of formal education increased the level of association when the education variable was inserted into the final multiple regression model. We observed a positive association regarding number of children; each child represented a 24% increase in the likelihood of using strategies focused on the problem.

Table 1. Association of strategies for coping with stress focused on the problem with personal characteristics of nursing technicians and assistants – Ribeirão Preto-SP, 2013

| Variable | n | % | OR | 95% CI* | p |
|--------------------|-----|------|-----|-----------|-----|
| Sex | | | | | |
| Male | 74 | 23.8 | 1.0 | | |
| Female | 236 | 76.1 | 0.8 | 0.5 – 1.4 | 0.5 |
| Age | 310 | 100 | 1.1 | 0.7 – 1.8 | 0.4 |
| Formal education | | | | | |
| Up to 8 years | 10 | 3.2 | 1.0 | | |
| 9 to 11 years | 228 | 73.5 | 0.9 | 0.6 – 1.6 | 0.9 |
| Over 12 years | 72 | 23.2 | 1.2 | 0.8 – 2.1 | 0.1 |
| Marital status | | | | | |
| No partner | 128 | 41.2 | 1.0 | | |
| With partner | 182 | 58.7 | 0.9 | 0.6 – 1.5 | 0.9 |
| Religion | | | | | |
| Catholic | 165 | 53.2 | 1.0 | | |
| Protestant | 75 | 24.1 | 1.1 | 0.6 – 1.9 | 0.6 |
| Spiritist | 44 | 14.1 | 0.9 | 0.4 - 1,7 | 0.7 |
| Undefined religion | 26 | 8.3 | 0.7 | 0.3 – 1.7 | 0.5 |
| Children | | | | | |
| No | 79 | 25.5 | 1.0 | | |
| Yes | 231 | 74.5 | 1.0 | 0.9 – 1.4 | 0.1 |

(*): confidence interval

Table 2. Association of high use of strategies for coping with stress focused on the problem, according to formal education and number of children, in nursing technicians and assistants (multivariate analysis). Ribeirão Preto-SP, 2013

| Variable | N | % | OR | 95% CI | p |
|---------------------------------|-----|------|------|-------------|------|
| Formal education | | | | | |
| Up to 8 years | 10 | 3.2 | 1.0 | | |
| From 9 to 11 years | 228 | 73.5 | 5.3 | 1.0 – 26.6 | 0.04 |
| Over 12 years | 72 | 23.2 | 7.6 | 1.4 – 40.5 | 0.02 |
| Number of children [†] | 310 | 100 | 1.24 | 1.01 – 1.52 | 0.04 |

(*): confidence interval; (†): continuous variable

Discussion

Stress is characterized by multifactorial worsening of individuals' ability to satisfy expectations of excellence imposed by society and the working environment. Methods for coping with stress are influenced by, among other things, an individual's personal characteristics.¹ In this study, the personal characteristics of nursing workers showed that most of them were women. Based on randomized sample, the predominance of women reflects a condition already delineated in other studies on composition of human resources in nursing.¹⁴ We can affirm that women more often have the characteristics associated with stress, including double and triple working shift, among other factors.^{1,14,15} This particular relation to sex also can be verified in the use of strategies for coping with stress.

In comparing ORs obtained in the association of sex with the use of strategies focused on the problem (univariate analysis), it can be inferred that women in this study were about 15% less likely to adopt strategies focused on the problem compared with men. In this sense, the discussion concerning differences of sex is relevant because the literature on the use of strategies focused on the problem has mostly included men; women require more attention concerning emotional stress, requiring preventive actions directed to this population.¹⁵⁻¹⁷ From the cognitive point of

view, coping focused on the problem represents a posture of approximation toward stress; such behavior reflects the intention to face stress as an issue that can be resolved, thereby reducing the source of stress. This differs from the approach taken with coping focused on emotion, in which the individual faces stress by adopting behavior that aims to attenuate stress load, but only in a palliative manner.⁷

Most participants in our study (67.7%) were older than age 40 years. Statistical analysis revealed that for each increasing age group, individuals were 18% more likely to use strategies of coping focused on the problem. This finding probably explains the belief that coping strategies increasingly develop with experience as individual age.¹⁸ In this sense, results can be used to improve the management of nursing teams. The team members could be redistributed so that older workers are paired with younger professionals so that the differing levels of experience can enable a variety of ways to cope with stress. Most study participants had nine to 11 years of education (73.5%) and more than 12 years of education (23.2%). This finding corroborates a study conducted in southern Brazil among nursing technicians and assistants in a hospital environment; in that study, 72.4% of the sample had nine to 11 years of education and 25.5% had more than 12 years of education.¹⁴

This variable was adequate to enter the final multiple regression model, indicating that the higher the level of formal education, the greater the chance of using strategies of coping focused on the problem. This finding is probably due to the same reason presented in the discussion of age: As education increases, the ability to understand and consciously develop coping strategies increases.¹⁸

Most study participants lived with a partner (58.1%). A similar percentage was identified in a sample of nursing professionals in the emergency unit at the same hospital as the current study (57.1%).¹⁹ This proportion of married participants is lower than in a study in Rio Grande do Sul among the same professional category (70.9%).¹⁴ In parallel, we verified that most participants (74.5%) had children; this variable was also adequate to enter the final multiple regression model. For each child, workers had a 24% greater chance of using a strategy of coping focused on the problem. This finding suggests that the number of children has the same effect as does age, giving experience to the individual. This result also corroborates the premise that strategies for coping with stress can be understood with experience.¹⁸

Conclusion. This study on sociodemographic characteristics of nursing professionals and use of strategies focused on the problem for coping with occupational stress revealed an association between these strategies and variables such as formal education and number of children. In the studied sample, formal education and number of children can be seen as factors of low vulnerability for occupational stress, considering that strategies focused on the problem constitute a more assertive coping mechanism.

We recommend the development of further studies based on these results, both to identify this association in different populations and to investigate the influence of children and formal education on coping with occupational stress. Specifically for nursing, characteristics of the profile for coping with stress investigated in our study can be useful for planning interventions to

improve the mental health of professionals and, consequently, improve the quality of care delivery at hospitals.

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