THE RELATIONSHIP BETWEEN OCCUPATIONAL STRESSORS AND COPING STRATEGIES IN NURSING TECHNICIANS

Sandra de Souza Pereira¹, Carla Araujo Bastos Teixeira², Emilene Reisdorfer³, Mariana Verderoce Vieira⁴, Edilaine Cristina da Silva Gherardi-Donato⁵, Lucilene Cardoso⁶

¹ Doctoral student of the Psychiatric Nursing Program, Escola de Enfermagem de Ribeirão Preto (EERP), Universidade de São Paulo (USP), Ribeirão Preto, São Paulo, Brazil. E-mail: ssouzapereira@gmail.com
² Doctoral student of the Psychiatric Nursing Program, EERP/USP. Ribeirão Preto, São Paulo, Brazil. E-mail: carlinhateixeira@hotmail.com
³ Ph.D. in Psychiatric Nursing, Faculty of Nursing, University of Alberta. Edmonton, Alberta, Canada. E-mail: mireisdorfer@gmail.com
⁴ Ph.D. in Psychiatric Nursing. EERP/USP. Ribeirão Preto, São Paulo, Brazil. E-mail: mariana.verderoce@gmail.com
⁵ Ph.D. in Psychiatric Nursing. Professor, EERP/USP. Ribeirão Preto, São Paulo, Brazil. E-mail: nane@eerp.usp.br
⁶ Ph.D. in Psychiatric Nursing. Professor, EERP/USP. Ribeirão Preto, São Paulo, Brazil. E-mail: lucileneca@yahoo.com.br

ABSTRACT: This is a quantitative, descriptive and exploratory research, with cross-sectional design that investigated the stressors experienced by nursing technicians working in general hospital and identified the coping strategies most used by them. The sample contained 310 participants. A sociodemographic questionnaire and the Ways of Coping Scale were used. For the analysis we used descriptive statistics and calculated the Cronbach’s alpha. 60% of professionals used the strategies focused on the problem; 57.4% attributed their stress to working conditions, 26.8% to relationships in the workplace, 5.5% to the lack of reward at work and only 0.6% to problems personal. We conclude that strategies focused on the problems were the most used, indicating an approximation of the stressor in order to fix it. The identified stressors indicate the need for planning, stimulating and recognizing nursing professionals.


A RELAÇÃO ENTRE ESTRESSORES OCUPACIONAIS E ESTRATÉGIAS DE ENFRENTAMENTO EM PROFISSIONAIS DE NIVEL TÉCNICO DE ENFERMAGEM

RESUMO: Pesquisa quantitativa, descritiva e exploratória, com desenho transversal, que investigou os estressores vivenciados por profissionais de enfermagem de nível técnico atuantes em hospital geral e identificou as estratégias de enfrentamento mais utilizadas. A amostra composta por 310 participantes. Foram utilizados o questionário sociodemográfico e a Escala de Modos de Enfrentamento dos Problemas. Para a análise utilizou-se a estatística descritiva e calculou-se o alfa de Cronbach. Observou-se que 60% dos profissionais utilizam de estratégias focalizadas no problema; 57,4% atribuíram seu estresse às condições de trabalho, 26,8% aos relacionamentos no ambiente laboral, 5,5% à falta de recompensa no trabalho e apenas 0,6% a problemas pessoais. Conclui-se que as estratégias focalizadas nos problemas foram as mais utilizadas indicando uma aproximação do estressor no intuito de solucioná-lo. Os estressores identificados indicam a necessidade de um planejamento, estimulação e reconhecimento dos profissionais que atuam na enfermagem.


LA RELACIÓN ENTRE LOS ESTRESORES OCUPACIONALES Y LAS ESTRATEGIAS DE ENFRENTAMIENTO ENTRE PROFESIONALES DE ENFERMERÍA DE NIVEL TÉCNICO

RESUMEN: Investigación cuantitativa, descriptiva y exploratoria, con diseño transversal, que investigó los factores de estrés que experimentan los profesionales de enfermería de nivel técnico que trabajan en un hospital general e identificar las estrategias de enfrentamiento más utilizadas por ellos. La muestra contó con 310 participantes. Se utilizaron cuestionario sociodemográfico y la Escala de Modos de Enfrentamiento a los Problemas. Para el análisis se utilizó estadística descriptiva y se calculó el alfa de Cronbach. 60% de los profesionales utilizan estrategias focalizadas en el problema; 57,4% atribuyen su estrés a condiciones laborales, el 26,8% a las relaciones laborales, el 5,5% a la falta de recompensa en el trabajo y sólo el 0,6% de los problemas personal. Se concluye que las estrategias focalizadas en los problemas eran las más utilizados, lo que indica una aproximación del estresor con el fin de solucionarlo. Los factores de estrés identificados indican la necesidad de una planificación, estimulación y reconocimiento de los profesionales que actúan en enfermería.

INTRODUCTION

In health, the term stress was first used in 1926 by Hans Selye, who at the end of several studies explained it as a general wear of the body, whose psychological reaction to emotional, physical, mental and chemical components to certain foreign stimuli cause irritability, frightening, excitement or confusion. Thus, stress was defined as a set of reactions that occur in an organism when it is subjected to adaptation stress.

The stimuli capable of causing the body’s homeostasis breaks are called stressor events, which can be classified as external (related to external conditions that affect the individual) and internal (determined completely by the individual). The state of stress is related to an adaptive response and, thus, is a normal, necessary and beneficial mechanism to the body. Each individual has a different tolerance level to stressful situations and the individual’s susceptibility to stress varies according to their ability to handle the problem.

In 1956, Selye developed a designated a General Adaptation Syndrome model, dividing the events and the changes produced by the biological system due to stress in three phases: the alarm or alert phase relates to the initial moment in which the body identifies the stressor and mobilizes a rapid organic response to face it; the resistance phase causes the body to resist independently of the permanence or not of the stressor, causing the organism to adapt, and in the exhaustion phase the stressor remains and the body starts to not be able to eliminate it or adapt again. A fourth phase was identified by Lipp between the resistance and exhaustion phase, identified as near-exhaustion phase, where there is weakening to resist or inability to adapt of the individual towards the stressor. At this stage light health problems may occur, but not incapacitantes.

Sometimes the work causes negative feelings to the worker, and can take him/her to suffering and from that, developing resources to support and not get sick because of psychological pressures of the activity. Nursing is a stressful profession, which generates harm to physical and mental health, which can converge to the professional illness, when it regularly faces: fragmentation of tasks and relationships, little flexible hierarchical structure, monotonous activities, insufficient sizing of personnel, high absenteeism and sick leave, inadequate conditions of work, overload of tasks and responsibilities, high standards, excessive continuous working hours, poor pay and job dissatisfaction, interpersonal relationship problems between individuals of the same class, exposure to loss, grief and death. Such evidence confirms that 62.30% of the stress of nursing staff comes from the work itself.

And to deal with this situation the professional often needs to develop coping techniques, creating defense mechanisms and adaptation to stress, defensive emotions and feelings to promote a detachment from people and anxiogenic situations.

The confrontation also called coping, corresponds to all the cognitive and behavioral efforts that are constantly changeable, for the control of internal and external demands, which exceed or exhaust the person’s resource. Thus, coping strategies may change over time, according to the stressor characteristics and context requirements.

Coping strategies can be classified by function and in two categories. The first category refers to strategies focused on the problem and the second focused on emotion. In the first the individual seeks to understand the stressor and tries to somehow modify it or avoid it in the future; in the second the subject seeks to reduce the distress the stimulus determines, even if the stressful situation cannot be changed.

It is important to note that the types of coping strategies used in a given situation will vary according to the personality or experiences of the individual, as well as the situation characteristics. Furthermore, the use of strategies protects the individual from damage or strengthen their ability to address challenging situations.

Thus, individuals develop different ways of coping, even compared to the same conflicting situation, which is due to several factors. It should be also noted that as the frequency and duration of stressful situations, resources tend to exhaustion. Therefore, different studies seek to understand the ways of coping used by professionals against the conflicting factors so that they can understand the work and relational dynamics and forms of expression/positioning these individuals, favoring the improvement of professional quality of life.

Given the above, developing a study to investigate the stressors experienced by the technicians and nursing assistants in a general hospital

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* In Brazil, nursing is divided into three categories: nurse, nursing technicians and nursing auxiliaries, being the highest level a nurse, followed by technicians and auxiliaries. Translator’s note.
The relationship between occupational stressors and coping strategies... is considered important, as well as identifying the coping strategies most used by these professionals.

METHOD

This is a quantitative, descriptive and exploratory research, with cross-sectional design, held in a large hospital in the state of São Paulo.

The population of the study included all nursing technicians and assistants working in a general hospital. An increased demand associated with less control of work corresponds to a greater wear level of the worker. Thus, the study was conducted in this population (technicians and nursing assistants) considering that these professionals have an occupation that meets the above conditions, that is, they meet a high demand for labor and have little control of the work performed due to their level of training and also the constant supervision of the nurse.

In this study nursing technicians and assistants with service time equal or higher than a year of both sexes were included. The research excluded the professionals who were out of work.

To calculate the sample size was applied to $N=Z^2:p.q/E^2$ formula. Thus, the sample size was calculated to detect an expected prevalence of 50% with 95% confidence and a maximum error of 5%. That is, the sample size should ensure such accuracy by detecting prevalence in the range of 45% to 55% with 95% probability. Prevalence values further than 50% will result in lower error or greater power estimation.

The correction for the finite population was performed by means of the expression: $n=n_{(initial)}/(1+n_{(initial)}/population)$, where $n_{(initial)}=384$ and population=1,055 takes the value of $n_{(intermediate)}=282$. Thus, assuming refusals and partial responses in approximately 20%, the final value was as follows: $n_{(final)}=338$, and randomization was done using the SPSS software.

Data collection took place between July and December 2012. A questionnaire was applied to sociodemographic, working conditions and health characterization and Scale of Ways of Coping with Problems (EMEP, in Portuguese).

The questionnaire was developed by the researchers to record the sociodemographic and labor data, and thus characterize the study population. It consists of 27 questions that include the following variables: age, gender, education, civil status, religion, length of service in the CH sector, length of service in the profession, the number of employment contracts, working time, with whom they live, number of persons residing in the household, number of children, medical consultation in the last year, medical reason for consultation, type of health service, use of medicines; absence from work, self-reported diseases and use of alcohol and tobacco.

To measure the types of coping strategies used by professionals the EMEP was used. This scale was designed based on interactive model of stress and conceptualizes coping as a set of specific answers to specific stressful situation. EMEP is comprised of the 45 items divided into four factors: problem-focused coping (consisting of 18 questions), emotion-focused coping (consisting of 15 questions), search for religious practices (consisting of 7 questions) and search for social support (consisting of 5 questions).

The scale has a space for the participant to write down a stressful situation which he/she is experiencing in the workplace at the moment. After completing the stressful situation, the participant may continue answering the 45 statements of the scale. The answers are given in Likert five-point scale (1=I never do that to 5=I always do that). The scores are obtained by the arithmetic mean and the higher the scores, the higher the frequency of use of the coping strategy. Only item four has negative factor analysis, so it is necessary to reverse the score before the calculation.

For the processing of the responses, the data were coded and tabulated by the researcher in a Microsoft Windows Excel spreadsheet, double-typing; the second typing was performed by a collaborator. Then, database validation was performed using the statistical software EpiData.

A descriptive analysis of population characteristics and variables studied through frequency distribution, absolute numbers and percentage, average, minimum and maximum was conducted. Content analysis was used for the open question of EMEP, for processing the data, which, after fluctuating reading, proceeded to the categorization, considering the frequency of responses. The Cronbach’s alpha ($\alpha$) was calculated to check the internal consistency and reliability of EMEP, obtaining the following alphas: strategies focused on the problem ($\alpha=0.84$), strategies focused on emotion ($\alpha=0.78$), search for religious practices ($\alpha=0.71$) and search for social support ($\alpha=0.64$). The overall alpha level was 0.85.
Considering the ethical aspects of research involving human beings (Resolution 196/96), this study received authorization from the service; it was submitted to the Ethical Research Committee of the Escola de Enfermagem de Ribeirão Preto and was approved by the Opinion 23433, CAAE protocol n. 01658912.1.0000.5393.

RESULTS

We invited 338 nursing professionals to participate in the study, divided in assistants and technicians. There were 8.2% of refusals, and the final total of participants was 310. The sociodemographic and employment characteristics of the participants are presented in Table 1.

Table 1 - Sociodemographic and employment characteristics of study participants. Ribeirão Preto-SP, Brazil, 2012

<table>
<thead>
<tr>
<th>Variables</th>
<th>n(%)</th>
<th>Average± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (female)</td>
<td>236 (76.1)</td>
<td>---</td>
</tr>
<tr>
<td>Age (years)</td>
<td>---</td>
<td>47.19 ± 10.94</td>
</tr>
<tr>
<td>Education (completed high school)</td>
<td>209 (67.4)</td>
<td>---</td>
</tr>
<tr>
<td>Civil status (married or with a partner)</td>
<td>180 (58.1)</td>
<td>---</td>
</tr>
<tr>
<td>Children (with children)</td>
<td>231 (74.5)</td>
<td>---</td>
</tr>
<tr>
<td>Religion (catholic)</td>
<td>165 (53.2)</td>
<td>---</td>
</tr>
<tr>
<td>Education (nursing assistant)</td>
<td>198 (63.9)</td>
<td>---</td>
</tr>
<tr>
<td>Position (nursing assistant)</td>
<td>265 (85.5)</td>
<td>---</td>
</tr>
<tr>
<td>Length of service</td>
<td>---</td>
<td>12.6 ± 8.75</td>
</tr>
<tr>
<td>Time in the profession</td>
<td>---</td>
<td>15.9 ± 8.83</td>
</tr>
<tr>
<td>Employment contracts (only)</td>
<td>246 (79.4)</td>
<td>---</td>
</tr>
<tr>
<td>Working hours (up to 30h per week)</td>
<td>242 (78.0)</td>
<td>---</td>
</tr>
</tbody>
</table>

When thinking of coping strategies, we note that each person seeks a way to deal with stressors, aimed at reducing them. It is noteworthy that, in this study, the most prevalent strategies were those focused on the problem (Table 2).

Table 2 – Components of Scale of Ways of Coping with Problems of study participants. Ribeirão Preto-SP, Brazil, 2012

<table>
<thead>
<tr>
<th>Strategies</th>
<th>n(%)</th>
<th>α Cronbach</th>
<th>α Cronbach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Focused on the problem</td>
<td>181(58.4)</td>
<td>0.84</td>
<td></td>
</tr>
<tr>
<td>Focused on emotion</td>
<td>5(1.6)</td>
<td>0.78</td>
<td>0.85</td>
</tr>
<tr>
<td>Search for religious practices</td>
<td>65(21.0)</td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>Search for social support</td>
<td>59(19.0)</td>
<td>0.64</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>310(100.0)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Cronbach’s alpha indicates the internal consistency of 0.85, which allows to infer that the responses obtained in the scale consists of reliability and that it is also very close to that found in the instrument factor analysis. Comparing the values of Cronbach alpha of the scale with other studies using the same instrument, same behavior occurs, that is, problem-focused coping factors, focused on emotion and search for social support were more reliable when compared to the social support search factor.

The data from the EMEP open question, related to occupational stressors experienced by participants, were categorized and so it was possible to identify the stressors that participants attributed on their work stress (Table 3).
The relationship between occupational stressors and coping strategies...

Table 3 - Stressful situations categorized from the responses of the participants. Ribeirão Preto-SP, Brazil, 2012

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
<th>Evidenced situations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditions for work</td>
<td>Overload</td>
<td>Excessive hours, Demand for service, Lack of collaborators, Complications in the sector, Disorganization, Lack of material resources, Lack of support to professional, Lack of emotional support</td>
</tr>
<tr>
<td></td>
<td>Work organization</td>
<td>Dissatisfaction with the sector, Pressure at work, Dissatisfaction with the preparation of the scale, Sector routines, Power use</td>
</tr>
<tr>
<td></td>
<td>Difficulties in teamwork</td>
<td>Divergent values between the team, Lack of collaboration between colleagues, Difference of conduct between the team</td>
</tr>
<tr>
<td>Relationships in the work environment</td>
<td>Difficulties in interpersonal relationships</td>
<td>Difficulties with leadership, Difficulties with colleagues, Difficulties with users, Empathy with a specific colleague, Low pay, Disrespect</td>
</tr>
<tr>
<td></td>
<td>Lack of reward at work</td>
<td>Lack of incentives, Lack of recognition, Frustration over service</td>
</tr>
<tr>
<td>Personal problems</td>
<td></td>
<td>Personal life</td>
</tr>
</tbody>
</table>

The analysis of the answers allowed the formulation of categories that describe the stress situations cited by participants, as Table 4.

Table 4 - Categorization of experienced stressors in the work environment. Ribeirão Preto-SP, Brazil, 2012

<table>
<thead>
<tr>
<th>Category</th>
<th>n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working conditions</td>
<td>178(57.4)</td>
</tr>
<tr>
<td>Work environment</td>
<td>83(26.8)</td>
</tr>
<tr>
<td>Lack of reward at work</td>
<td>17(5.5)</td>
</tr>
<tr>
<td>Personal problems</td>
<td>2(0.6)</td>
</tr>
<tr>
<td>Not informed</td>
<td>30(9.7)</td>
</tr>
<tr>
<td>Total</td>
<td>310(100.0)</td>
</tr>
</tbody>
</table>

According to the qualitative analysis of data obtained from the survey of stressful situations cited by participants as stressor produced in the work environment, it could be observed that the vast majority (n=178) cited as stressful situations related to working conditions, either overload or the organization of the service. It is also noticed that few participants (n=2) cited personal factors as stressors, which highlights the centrality of work in determining the stress direction in the work environment.

**DISCUSSION**

Regarding the sociodemographic and work characteristics of the study participants, similar results were found in other studies on the same population and location of study. These data reflect a population composed mostly of women, which can be explained by the characteristics of the profession that was historically associated with the feminization of care. Another detail worth mentioning is that the minimum level of education (completed high school) justifies the requirement for the professionalization of the nursing technician and assistant.

Although evaluating professional categorization issues was not the main objective of this study, there are a considerable number of technicians working as nursing assistants in the service. In this study, 64% of nursing technicians worked as assistants. Such estrangement occurs from the COFEN guidance to gradual extinction of this last professional category.

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Low remuneration is a highlighted factor in the literature as stressor, and having professionals working in positions different from their training and lower pay makes this situation important to be considered.

Nursing as a professional category has always been marked by professionals who reconcile more than one employment, as can be seen in a study performed with nurses in an oncology hospital, in which 70.8% of workers had double working hours with low wages and the need to improve the family income as justification. However, in this study most of the nursing technicians and assistants had only one employment.

Similar data can be checked in other studies also conducted with these professionals. In this study, working in only one place may be related to the opportunity offered by the service itself so that the professional can increase their earnings through extra shifts at the unit.

It should be noted that even though the professional does not need to go to another service, he/she will have the working time increased, which could trigger professional wear. A large portion of nursing technicians and assistants in this study mentioned working up to 60 hours a week. Studies show that the overload of working hours may be related to illness.

When thinking of coping strategies, we note that each person seeks a way to deal with stressors, aimed at reducing them. In this study, the strategy most commonly used by the sample was focused on the problem; this strategy represents an approaching condition that is performed by the individual in relation to the stressor towards solving the problem or handle with the stressful situation. It also indicates that there are cognitive efforts aimed at re-evaluation of the problem, realizing it so as a positive manner.

This result indicates that facing problems in order to solve them is the best way to deal with stressors that arise not only in the workplace but also in personal life. Studies in other populations, such as people with HIV, patients with ESRD, master’s students in health sciences and cancer patients corroborate such results.

The Cronbach’s alpha indicates the internal consistency of 0.85, which allows to infer that the responses obtained in the scale consists of reliability and that it is also very close to that found in the instrument factor analysis. Comparing the values of Cronbach α of the scale with other studies using the same instrument, same behavior occurs, that is, problem-focused coping factors, focused on emotion and search for social support were more reliable when compared to the social support search factor.

Occupational stressors reported by participants were identified and categorized for better understanding.

According to the qualitative analysis of data obtained from the survey of stressful situations cited by participants as stressor factor produced in the work environment it could be observed that the vast majority (n=178) cited as stressful situations related to working conditions, either overload or the organization of the service. It is also noticed that few participants (n=2) cited personal factors as stressors, which highlights the centrality of work in determining the stress direction in the work environment.

In terms of working conditions, work overload was mainly derived from the lack of collaborators, excessive working time, high demand for the service and the events that happen in the sector. Such situations are also evidenced by other studies. In relation to the service organization, it was evidenced through the sector disorganization the lack of material resources, lack of professional support, lack of emotional support, dissatisfaction with the sector, pressure at work, dissatisfaction with the preparation of the scale, sector routines and use of power. It is noteworthy that the aspects related to the service organization has been associated with stress and lack of resources, whether personal, material or physical, is related to service conditions not always satisfactory, which leads to professional stress interfering with quality of service.

It is noteworthy that among the experienced situations characterized as relationships in the work environment, this was divided into two subcategories: difficulties in teamwork, where it was highlighted the divergent values between the team and the lack of cooperation from colleagues, and the subcategory difficulties in interpersonal relationships, which evidenced situations of different practices among the team, difficulties with leadership, with colleagues and with users and empathy with a specific colleague. Such situations can directly affect the functioning of the team, thus hindering the exchange of experiences and the opportunity to contribute with ideas designed to promote both the team as well as the assistance.

The evidenced situations in the category lack of reward at work are related to low pay, disrespect, lack of incentive and recognition for the work and frustration in relation to the service provided. Other studies corroborate these results by combining the
low pay with stress at work, and also the relative lack of recognition is directly linked to motivation and accommodation by the professional to the tasks to be performed.30

Only two participants mentioned problems related to personal life as stressful situations that interfere with work.

FINAL REMARKS

Considering that the coping strategies become necessary to try to solve the stressful situations that permeate the work environment, the results of this research should be assessed carefully. Thus, the highlights were the coping strategies focused on the profession.

These results indicate three mainly organizational components that affect the health of nursing workers in this study. Such components, by being directly related to working conditions, can be reviewed in order to develop modifications and interventions that minimize the situations identified as stressful.

These results contributed to a more detailed view of reality perceived in practice. This research aims to contribute in some way, given the existing lack of detailed studies specifically in the area of nursing to address this issue as part of everyday life.

The use of multifactorial instruments enables us to better clarity about the many subjective and objective factors surrounding the work environment. However, as Brazil is a country rich in life contexts, further studies are suggested to be carried out in different departments and regions, so that one can draw a broader and enhanced profile of the profession.

It is expected that from this study it is possible to understand more concretely the occupational stress factors and their ways of coping, and then develop intervention methods to transform this reality, either through further studies, or with professional practice, directly.

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Correspondence: Sandra de Souza Pereira
Avenida Bandeirantes, 3900
14040-90 - Ribeirão Preto, SP, Brasil
E-mail: ssouzapereira@gmail.com

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