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Occupational stress and health behaviors of nurses in a tertiary hospital in Fortaleza – Ceará

Estrés ocupacional y comportamientos de salud de enfermeras en un hospital terciario de Fortaleza – Ceará

Estresse ocupacional e comportamentos de saúde de enfermeiros de um hospital terciário de Fortaleza – Ceará

RESUMO

Objetivo: Identificar os fatores de estresse ocupacional e os comportamentos de saúde de enfermeiros de um hospital terciário de Fortaleza-CE. **Método:** Trata-se de um estudo transversal, desenvolvido em uma unidade hospitalar de atenção terciária de Fortaleza, no período de outubro de 2018 a março de 2019. **Resultado:** A amostra constituiu-se de 134 enfermeiros que foram recrutados por meio de amostragem por conveniência. Utilizou-se um questionário estruturado, pré-codificado, com 12 questões fechadas de múltipla escolha. Verificou-se que 26,1% (n=35) dos profissionais fazem uso de substâncias psicoativas e 61,9% (n=83) apresentaram de 1 a 5 sinais/sintomas de estresse. **Conclusão:** Destarte, este estudo será útil para que os gestores reflitam sobre os fatores que influenciam a qualidade de vida dos enfermeiros, contribuindo para implementação de ações que melhorem as condições de trabalho e favoreçam a proteção do trabalhador.

DESCRIPTORIOS: Profissionais de Enfermagem; Estresse Ocupacional; Esgotamento Profissional.

ABSTRACT

Objective: Identify occupational stress factors and health behaviors of nurses in a tertiary hospital in Fortaleza-CE. **Method:** This is a cross-sectional, developed in a tertiary care hospital in Fortaleza, from October 2018 to March 2019. **Result:** The sample consisted of 134 nurses who were recruited through convenience sampling. A pre-coded structured questionnaire was used, with 12 closed multiple questions. It was found that 26.1% (n = 35) of the professionals use psychoactive substances and 61.9% (n = 83) had 1 to 5 signs/symptoms of stress. **Conclusion:** Thus, this study will be useful for managers to reflect on the factors that influence the quality of life of nurses, contributing to the implementation of actions that improve working conditions and favor worker protection.

[**DESCRIPTORS:** Nurse Practitioners; Occupational Stress; Burnout.

RESUMEN

Objetivo: Identificar factores de estrés ocupacional y comportamientos de salud de enfermeras de un hospital terciario de Fortaleza-CE. **Método:** Se trata de un estudio transversal realizado en un hospital terciario de Fortaleza, de octubre de 2018 a marzo de 2019. **Resultado:** La muestra estuvo conformada por 134 enfermeras que fueron reclutadas mediante muestreo por conveniencia. Se utilizó un cuestionario estructurado y precodificado con 12 preguntas cerradas de opción múltiple. Se encontró que el 26,1% (n = 35) de los profesionales consumen sustancias psicoactivas y el 61,9% (n = 83) presenta de 1 a 5 signos / síntomas de estrés. **Conclusión:** Así, este estudio será de utilidad para que los gerentes reflexionen sobre los factores que influyen en la calidad de vida de las enfermeras, contribuyendo a la implementación de acciones que mejoren las condiciones laborales y favorezcan la protección de los trabajadores.

DESCRIPTORIOS: Profesionales de Enfermería; Estrés laboral; Burnout profesional.

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INTRODUCTION

The health work process is complex, dynamic, continuous and includes socioeconomic, political and technological changes. As a result, the abrupt changes in work activities reveal occupational stress and, consequently, lead to the health professional becoming ill. For that, occupational stress comes from a harmful work environment, linked to organizational factors, working conditions and the quality of interpersonal relationships at work. Accordingly, occupational stress is due to the needs and/or work situations where the professional is inserted, therefore, this professional should seek coping strategies to prevent a possible pathological condition. With this, it is essential that the professional recognizes, their individual stress level and which are the stressors of the work environment. It should also be noted that the continued exposure of health professionals to psychosocial factors, adverse to the environment, increases the risk of cardiovascular, musculoskeletal, gastrointestinal and psychological diseases.^{1,2}

The quality of life at work in hospital units has aroused the interest of researchers, having as evidence two observational principles, such as: the

excessive workload and the assistance routine correlated with the pain, suffering and death of patients. In parallel, it is observed that hospital units increase the productivity charge of nursing professionals, without offering favorable conditions for healthy development and with damage to the health of these professionals. Therefore, excessive workload is one of the preponderant obstacles among nursing professionals, thus, it can cause work accidents, due to mental and physical fatigue. Another crucial factor that prevails over health overwork is the insufficient number of nursing professionals to provide assistance to patients. In addition, the accumulation of employment relationships has caused excessive hours worked and, consequently, leisure time for other areas of social life is left in the background. On the other hand, the labor market has become rigorous due to technological advances, requiring that the health professional is qualified and specialized.^{3,4}

In addition, stress is characterized as a set of physiological reactions that determine unprecedented situations and depending on the intensity and/or duration of stress triggers an imbalance in the body. Therefore, it is conceptualized that occupational stress comes from the work environment, resulting

in the employee's result in the face of stress. Thus, occupational stress presents unique factors in the work environment, such as: organization, management, structural conditions and quality in interpersonal relationships at work. It was found that the main factors that predominate occupational stress correspond to relationships with colleagues (2,2%), the activities assigned at work (62,8%) and the relationship with managers (62,8%).^{1,2,3,4}

It is noteworthy that nursing professionals are exposed to long hours, inadequate working conditions, use of obsolete equipment, from an ergonomic point of view, they remain standing for a long time, have few hours of sleep and rest. In this way, such factors are potentiators of the appearance of musculoskeletal injuries and predictive of exposure to occupational risks that reflect the growth in the rates of leave, leave and disability pensions. Therefore, the overload of duties contributes to these professionals, presenting exhaustive faces, reflecting on the precariousness of the assistance and the non-formation of bonds with the patient. In this way, it is natural for the human body to reach the physical, emotional and psychic limits, triggered by occupational stressors. In this sense, it is urgent that health managers are par-

ticipatory and demonstrate sensitivity to identify the needs of their team.^{5,6,7}

Furthermore, when the work of hospital unit managers is structured and organized by a multidisciplinary team and composed of workers from different professional categories, it facilitates and promotes a holistic and comprehensive view of the patient's health status. Therefore, it is not only biomedical training that we must have as an exact essence, but the structuring of a healthy condition of health professionals, based on the patient and the hospital unit. Regarding the care process, this will always be the pillar for meeting the patient's individual needs and priorities. Consequently, the participatory assistance model, the non-fragmentation of work, the increase in the effectiveness of care make the work environment welcoming and dynamic and distant from occupational stressors.⁸

As seen, the present study seeks to provide reflective elements about the factors that influence the quality of life of nurses, as well as to contribute to the humanization process of care, aiming to protect the worker and promote better living conditions inside and outside work institutions. Thus, the objective was to identify occupational stress factors and health behaviors of nurses in a tertiary hospital in Fortaleza-CE.

METHOD

This is a cross-sectional, descriptive study with a quantitative approach, developed in a tertiary-level hospital unit in Fortaleza, whose service is exclusive by the Unified Health System (SUS). Data collection was carried out from October 2018 to March 2019.

The sample consisted of 134 nurses who are in care practice, estimated from the finite population formula. The sample calculation considered an expected average prevalence of up to 50% for several indicators, due to the lack of knowledge of the proportion of the event, with a 95% confidence level and

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with a margin of error of 5%.¹¹ For recruiting participants, convenience sampling was adopted.

The inclusion criteria for the professionals who participated in this study were: to be working directly in the assistance and to have at least six months of professional experience in the institution. The exclusion criteria consisted of: sick leave, maternity leave and vacation during the data collection period. Considering the selection and eligibility criteria adopted for recruiting participants, the eligible professionals were duly located in the sectors/units of the institution. Participants were asked to answer the research questionnaire in the respective units/sectors of activity (outpatient clinics, wards and nursing stations). In addition, it was ensured that the participant chose the time and place of the units/sectors that make them more comfortable to answer the instrument.

In data collection, an instrument was used in the form of a structured, pre-coded questionnaire, with multiple choice closed questions, with 12 questions related to the participants' perception about occupational stress factors and health behavior. The data collection instrument was designed in six blocks, structured as follows: Block A - Characterization of the training and professional of the research participants; Block B - Stress situations related to the work environment; Block C - Use of psychoactive substances (tobacco, caffeine, medications, alcohol and other drugs); Block D - Health behaviors adopted by health professionals; Block E - Signs/symptoms of professional stress; Block F - Identification of the main stressors of the participating professionals. The estimated time for applying the questionnaire was approximately 15 minutes.

The data obtained were entered and processed using the electronic spreadsheets of the Microsoft® Office Excel® 2016 program. After being tabulated, the data were analyzed using descriptive statistics in the STATA program, calcu-

Table 1 Training and professional characteristics of the participants (2019).

Variáveis:	N	%
Sexo		
Mas	12	9,0
Fem	122	91,0
Idade		
18 a 25 anos	12	9,0
26 a 33 anos	42	31,3
34 a 49 anos	50	37,3
50 a 65 anos	26	19,4
>65 anos	4	3,0
Escolaridade		
Graduação	21	15,7
Especialização	100	74,6
Mestrado/Doutorado	13	9,7
Tempo de formado		
<1 ano	9	6,7
1 a 5 anos	43	32,1
6 a 10 anos	32	23,9
11 a 15 anos	6	4,5
16 a 19 anos	10	7,5
>20 anos	33	24,6
Não respondeu	1	0,8
Tempo de serviço na instituição		
<1 ano	29	21,6
1 a 5 anos	34	25,4
6 a 10 anos	39	29,1
11 a 19 anos	7	5,2
>20 anos	24	17,9
Não respondeu	1	0,8
Possui outro emprego		
Sim	58	43,3
Não	74	55,2
Não respondeu	2	1,5
Vínculo trabalhista com a instituição		
Cooperada(o)	73	54,5
Estatutária(o)	43	32,1
Celetista	14	10,5
Residente	3	2,2
Não respondeu	1	0,8

Source: Research data.

lating the absolute and relative frequencies. Next, the results were organized in tables and analyzed in the light of the scientific literature relevant to the topic.

In compliance with the legal ethical aspects of research involving human beings, this study received authorization from the service for its performance and was duly approved by the Ethics and Research Committee with human beings, under the opinion of n°. 2.903.371.

RESULTS

Information was collected from 134 nursing professionals from a tertiary hospital in Fortaleza who work directly in health care.

It was observed that women are the main workforce in the hospital, representing 91,0% (n=122) of health professionals. Regarding the age of the participants, about 60% (n=79) are between 26 and 41 years old. As for education, it was found that 15,7% (n=21) have only undergraduate degrees, the vast majority reported having graduate degrees, with specialization being the most frequent among participants (74,6%; 100), followed of those with stricto sensu training at master's level (7,5%; 10) and doctorate (2,2%; 3). It was observed that 32,1% (n=43) have less than 5 years of training and 23,9% (n=32) have between 6 and 10 years of training. However, it was identified that about a quarter of the participants reported having graduated more than 20 years (24,6%; 33).

It was found that about 30% (n=39) of professionals have between 6 and 10 years of service at the institution, 25,4% (n=34) are between 1 and 5 years old and 21,6% (n=29) are between 6 and 12 months old and that approximately 18,0% reported having more than two decades of service. With regard to the employment relationship with the institution, it was identified that 32,1% (n=43) were statutory, the rest were in the condition of members (54,5%; 73), employees (10,5 %; 14) and residents

Table 2 Characteristics related to psychoactive substance use and health behaviors (2019).

Variáveis:	N	%
Uso de substância psicoativa		
Não	99	73,9
Sim	35	26,1
Tipo de substância*		
Tabaco	1	0,8
Cafeína	24	17,9
Álcool	6	4,5
Medicamento	15	11,2
Comportamento de saúde		
Não	71	53,0
Sim	63	47,0
Tipo de comportamento de saúde*		
Atividade física	63	47,0
Alimentação saudável	34	25,4
Tocar ou ouvir música	44	32,8
Lazer (ler livros, cinema/teatro/museu, praia, passeio, etc)	65	48,5
Uso de medicamento	7	5,2
Terapia	3	2,2
Atividades religiosas	4	3,0

Source: Research data. * Participants could check more than one option.

Table 3 Characteristics related to the presence of stress symptoms reported by the participants (2019).

Variáveis:	N	%
Estratificação de sintomas de estresse		
1 a 5 sintomas	83	61,9
6 a 10 sintomas	35	26,1
11 a 14 sintomas	8	6,0
15 a 20 sintomas	8	6,0
Tipo de sinais/sintomas		
Boca seca	24	17,9
Tensão muscular	77	57,5
Insônia	74	55,2
Taquicardia	28	20,9
Hiperventilação	9	6,7
Mudança de apetite	45	33,6
Agitação	41	30,6
Problemas de memória	48	35,8
Mal-estar generalizado (sem causa específica)	21	15,7
Formigamento das extremidades	25	18,7

(2,2%; 3), respectively. It was found that most participants only have the researched institution as their main place of work (55,2%; 74). As shown in Table 2, 26,1% (n=35) of professionals use psychoactive substances. Among these, caffeine and medications are the two most frequent, corresponding to 17,9% (n=24) and 11,2% (n= 5), respectively.

It was found that 47,0% (n=63) of the participants performed or practiced some health behavior. Among the health behavior activities most reported by professionals, 'leisure in general' (reading books, cinema/theater/museum, beach, promenade, etc.) (48,5%; 65), physical activity, play/listen to music and eat healthy.

Next, Table 3 gathers the characteristics of the variables related to the stress symptoms reported by nurses. It was found that 61,9% (n=83) revealed to have 1 to 5 signs/symptoms of stress, followed by those who reported having between 6 to 10 signs/symptoms (26,1%; 35).

Among the most prevalent signs/symptoms of stress, it was observed that 'muscle tension', 'insomnia' and 'physical exhaustion' are signs/symptoms reported by 57,5% (n=77), 55,2% (n=74) and 50,8% (n=68), respectively. Signs/symptoms such as 'anguish and/or anxiety and/or fear daily', 'change in appetite' and 'agitation' were also quite frequent among 30,6% to 36,6% of health professionals.

It was found that 56,7% (n=76) of the participants pointed out 'Deficient environmental structure and lack of materials' as the main stress factor, followed by 'Dissatisfaction with remuneration' and 'Absence of professional recognition', both flagged by 53,0% (n=71).

The stress factor 'Exhausting work process' was listed by about 45,0% of professionals, accompanied by the factors 'Activity overload' and 'Excessive workload', both indicated by 39,6% (n = 53) of the study participants.

Desgaste físico	68	50,8
Alterações dermatológicas	21	15,7
Alterações gástricas	30	22,4
Irritabilidade excessiva	38	28,4
Diminuição da libido	11	8,2
Náusea	15	11,2
Pesadelos frequentes	6	4,5
Apatia, depressão ou raiva prolongada	24	17,9
Cansaço constante e excessivo	49	36,6
Angústia e/ou ansiedade e/ou medo diariamente	33	24,6
Hipersensibilidade emotiva	22	16,4
Perda do senso de humor	24	17,9
Hipertensão	1	0,8
Ideação suicida	1	0,8

Source: Research data.

With regard to age, there was a predominance in the age group between 26 and 41 years. These data demonstrate that the nursing profession is mainly made up of women, a historical trend in the profession, although in recent decades there has been a demand for the course by men in the area, corresponding to 1,4% of vacancies.^{12,13}

In relation to education, it was found that few professionals have just graduated, considering that the vast majority have graduate degrees, with specialization being the most frequent among the participants, which demonstrates that the labor market has increasingly, qualified professionals are required. Studies indicate that health workers with specialization in the area, can facilitate interaction and integration with their work process, since there is a greater demand for health services by specialized professionals. In addition, it is recommended that professionals, especially nurses, seek to keep up to date, acquiring more and more technical-scientific knowledge, with a view to favoring quick and assertive decision-making, leading the entire team to safety and, mainly, aiming to reduce the risks that threaten the patient's life.^{14,15}

Regarding training time and length of service at the institution, it was observed that the majority of study participants have between 6 and 10 years of graduation. However, it was identified that about a quarter of the participants reported having more than 20 years of training, representative of the professionals with more than two decades of service, who are those who had a statutory employment relationship. The literature points out that the extended service time, makes the professionals end up adapting to the place, favoring less signs of stress. On the other hand, having a long service can lead to the trivialization of your work process.¹⁶

It was evident that there was a predominance of professionals with shorter service time at the institution among the participants, given that the vast majori-

Table 4 Identification of stress factors reported by nurses (2019).

Variáveis:	N	%
Fator de estresse ocupacional		
Não	2	1,5
Sim	132	98,5
Tipos de fatores de estresse		
Estrutura ambiental deficiente e falta de materiais	76	56,7
Insatisfação com a remuneração	71	53,0
Sobrecarga das atividades	53	39,6
Dimensionamento de pessoal	31	23,1
Processo de trabalho desgastante	60	44,8
Trabalho noturno	28	20,9
Ausência de reconhecimento profissional	71	53,0
Acidente de trabalho	2	1,5
Relacionamento interpessoal com os demais profissionais	43	32,1
Trabalho repetitivo	13	9,7
Carga horária	53	39,6
Exposição constante a riscos	17	12,7
Lidar com a morte	7	5,2
Conflito entre o trabalho e a família	7	5,2
Tomada de decisões de conflitos pessoais	15	11,2
Falta de autonomia profissional	27	20,2

Source: Research data.

DISCUSSION

The study revealed that women represent the main workforce of the ins-

titution, among health professionals, given that it corroborates the profile of nursing in Brazil, which demonstrated that 85,1% of professionals are female.

ty reported having less than a decade of work in the hospital. This data is equivalent to the professionals who provide services in the cooperative, celetist and resident modalities, respectively. As a consequence of the precarious work scenario, damage to the worker's health and to the organization is pointed out due to staff turnover and the flight of intellectual capital that directly interfere in the quality of care.¹⁷

It was also observed that there was a fifth of recently graduated professionals, having between 6 and 12 months of institution. The results found reinforce the process of precarious workforce in nursing, due to the absence of public tenders as a way of composing the permanent staff of health institutions in the country.¹⁸

Regarding the length of professional experience, there are authors who state that nurses at the beginning of their careers tend to have higher levels of stress when compared to professionals who have been in the profession for longer. In this sense, it appears that the longer the working time, the lower the level of stress due to the fact that nurses have acquired greater technical security and control over the situations that arise in their work routine.¹⁹

It was found that most participants only have the researched institution as their main place of work. This reality highlights the difficulty of reconciling two jobs, given that, in the hospital context where nursing is the largest workforce, activities are often complex, in addition to being subject to a rigid hierarchical structure for compliance schedules, routines, rules and regulations.^{20,21}

It was identified that health professionals use psychoactive substances and that among these substances stand out: caffeine and medications. It was found that 37,4% of professionals used psychoactive drugs, and claimed that use is associated with: poor working conditions, high workload, several nights of sleep lost, with stress as the main reason for using these medicines. It was found that the use of psychoactive substances among

Among the most prevalent signs/symptoms of stress among health professionals, it was observed: 'muscle tension', 'insomnia', 'physical exhaustion', 'anguish and/or anxiety and/or fear daily', 'change in appetite 'and' agitation'.

professional nurses is, on average, 30 to 100 times more prevalent in these professionals than in other health workers. These professionals become chemically dependent, in addition to having a high degree of exhaustion syndrome, compared to other health professionals. Thus, self-medication is more susceptible to

nursing professionals, due to the greater possibility of self-administration, the ease of these substances in their daily work, given that these professionals are still responsible for the storage and control of these substances.²²

It was found that most of the professionals surveyed did not practice any behavior and/or physical activity, indicative of a healthy habit/lifestyle. Among the health behavior activities most reported by professionals, we identified: 'leisure in general', reading books, cinema/theater/museum, beach, walking, physical activity, playing/listening to music and eating healthy. It is seen that the adoption of healthy health behaviors are activities that are not yet part of the reality of regular and healthy habits of professionals. It should be noted that the adoption of healthy behaviors and lifestyles by health professionals is of fundamental importance for improving the quality of life, in view of the increase in chronic non-communicable diseases (NCDs) in the general population, with emphasis on food inadequate and sedentary lifestyle, resulting from the processes of industrialization, globalization and working conditions.²³

Regarding the characteristics related to the stress symptoms reported by the nurses, it was found that the majority had 1 to 5 signs/symptoms of stress. Among the most prevalent signs/symptoms of stress among health professionals, it was observed: 'muscle tension', 'insomnia', 'physical exhaustion', 'anguish and/or anxiety and/or fear daily', 'change in appetite 'and' agitation'. The symptoms of stress comprise three phases: the first refers to the defense or alarm reaction and the symptoms of which are tachycardia, pallor, fatigue, insomnia and lack of appetite; the second phase is called resistance or adaptive, in which the individual shows symptoms related to social isolation, the inability to disconnect from work, excessive irritability and decreased libido; the third phase, in turn, presents itself as an exhaustion or exhaustion stage. At this stage, the indi-

vidual has problems such as high blood pressure, depression, anxiety, sexual and dermatological problems, such as psoriasis, vitiligo, hives and allergy, in addition to infarction and even sudden death.²⁴

As explained, it was observed that the professionals reported the presence of stress symptoms classified into the three phases of symptom occurrence. This situation demonstrates the reality of the work process in which it is imbricated by stressful situations, which are causing the appearance of such symptoms that may imply the physical and psychological health of the professional, thus, the implementation of strategies and actions that mitigate occupational stress factors are urgent.

Regarding the identification of stressors, it was observed that a large part of the participants points to 'Deficient environmental structure and lack of materials' as the main stressor, followed by 'Dissatisfaction with remuneration' and 'Absence of professional recognition'. They were also pointed out as factors of occupational stress: 'Exhausting work process', 'Activity overload' and 'Excessive workload'. Thus, it was identified that the stress of professional nurses is favored by:

excessive workload, difficulties related to the client and processes and organizational structure of the hospital, therefore, it is characterized that emotional exhaustion, depersonalization and reduction of personal fulfillment correspond to the main stressing loads.²⁵

Finally, it was observed that the main stressors reported by the participants of this study were: the personal environment, the excessive scale of work, the lack of resources for the development of the work process, the drop in job performance, as well as interpersonal relationships between colleagues and/or groups at work. As seen, it is also necessary that there is a participatory and integral action by the managers, promoting strategies and interventions that favor better working conditions and, consequently, positively reflect the quality of life of the professionals.

CONCLUSION

Nursing is a profession vulnerable to stress in its innumerable daily practices, whether assistential or managerial. As a result, this work sought to identify occupational stress factors and health

behaviors of nurses in a tertiary hospital in Fortaleza-CE. It is believed that the proposed objective was achieved, in view of the results expressed about the health behaviors of professionals, the symptoms of stress and their respective causative factors, as verified throughout the study.

The results presented show the need for the adoption of preventive measures of occupational stress in the collective and organizational scope, with a view to providing a safe work environment and with essential resources for quality care. It is understood that the implementation of such measures can contribute to the promotion of the group's well-being and satisfaction, resulting in improved performance, thus minimizing the social and financial burden for the individual and the organization, considering the possibility reducing the risk of illness and absenteeism.

It is believed that this study will be useful for managers to reflect on the factors that influence the quality of life of nurses and that these reflections can contribute to the implementation of actions that improve working conditions, favoring the humanization of care and the protection of workers. ■

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