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Psychosocial factors and prevalence of burnout syndrome among nursing workers in intensive care units

Fatores psicossociais e prevalência da síndrome de burnout entre trabalhadores de enfermagem intensivistas

ABSTRACT

Objective: To evaluate the prevalence of burnout syndrome among nursing workers in intensive care units and establish associations with psychosocial factors.

Methods: This descriptive study evaluated 130 professionals, including nurses, nursing technicians, and nursing assistants, who performed their activities in intensive care and coronary care units in 2 large hospitals in the city of Rio de Janeiro, Brazil. Data were collected in 2011 using a self-reported questionnaire. The Maslach Burnout Inventory was used to evaluate the burnout syndrome dimensions, and the Self Reporting Questionnaire was used to evaluate common mental disorders.

Results: The prevalence of burnout syndrome was 55.3% (n = 72). In the quadrants of the demand-control model, low-strain workers exhibited a prevalence of 64.5% of suspected cases of burnout, whereas high-strain workers exhibited a prevalence of 72.5% of suspected cases (p = 0.006). The prevalence of suspected cases of common mental disorders was 27.7%; of these, 80.6% were associated with burnout syndrome (< 0.0001). The multivariate analysis adjusted for gender, age, educational level, weekly work duration, income, and thoughts about work during free time indicated that the categories associated with intermediate stress levels - active work (OR = 0.26; 95%CI = 0.09 - 0.69) and passive work (OR = 0.22; 95%CI = 0.07 - 0.63) - were protective factors for burnout syndrome.

Conclusion: Psychosocial factors were associated with the development of burnout syndrome in this group. These results underscore the need for the development of further studies aimed at intervention and the prevention of the syndrome.

Keywords: Stress; Burnout, professional; Nursing, team; Occupational health; Intensive care units

INTRODUCTION

Previous studies have shown that work is an important factor associated with both pleasure and stress.⁽¹⁻⁴⁾ Stress is a current problem and has been the subject of multidisciplinary studies in several areas because it poses risks to human health. The main factors that can trigger stress in the work environment involve work-related aspects, including work organization, management, hierarchy, and interpersonal relations, all of which are associated with psychosocial factors.⁽⁵⁻¹³⁾

According to the International Labour Organization, the adequacy of working conditions that meet workers' expectations favors their physical and mental health, provided that the risks are kept under control.⁽¹⁴⁾ In recent years, the relationship between work-related stress and workers' mental health has been the subject of

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Responsible editor: Jorge Ibrain Figueira Salluh DOI: 10.5935/0103-507X.20150023 studies due to the increasing number of cases of temporary disability, absenteeism, early retirement, and other health risks associated with the professional activity in any area of expertise.^(5,15,16) Burnout syndrome (BS), depression, suicidal thoughts, low quality of life, and job dissatisfaction have been recurrent topics in the medical profession.^(17,18)

BS was first described in 1974 by Frendenberg.^(19,20) The term "burnout" suggests that the individuals with this type of stress have physical and emotional problems.⁽²¹⁾ The syndrome is defined as a chronic psychological disorder present among individuals whose work involves relations of intense and frequent care with patients who need constant help, and it has 3 dimensions.⁽²²⁾

Emotional exhaustion is characterized by exhaustion or loss of emotional resources and energy, leading to lack of enthusiasm, frustration, tension, and fatigue.⁽²³⁾ Depersonification is marked by the development of negative feelings and attitudes at work and is considered a unique feature of BS.^(24,25) Therefore, depersonification is the dimension that triggers BS,⁽²⁶⁾ and it occurs when the worker adopts negative attitudes that are accompanied by insensibility and lack of motivation. Lastly, low personal accomplishment is evident when there is a trend toward negative professional self-evaluation, increased irritability, low productivity, poor work relations, and lack of motivation, leading to work dissatisfaction.^(12,22,27,28)

Studies conducted in North and South America indicate that BS is currently a significant psychosocial problem, attracting the interest and concern of the international scientific community in North America and Europe because of its individual and collective consequences.^(15,29) Hospital-based work is characterized by excessive workloads, contact with challenging situations, and high levels of stress and risk. Owing to the intrinsic characteristics of the work, medical and nursing teams are more susceptible to occupational stress.^(12,30) Physical and mental overload are responsible for the stress at work among doctors, nurses, nursing assistants, and nursing technicians working in critical care sectors.⁽³⁰⁻³³⁾

This study aims to evaluate the prevalence of BS among nursing workers in intensive care units and establish associations with psychosocial and sociodemographic factors.

METHODS

This cross-sectional and descriptive study collected data between 2010 and 2011. A total of 130 workers participated in the study, including nurses, nursing technicians, and nursing assistants from the intensive care unit (ICU) and coronary care unit of 2 large federal hospitals located in the metropolitan area of Rio de Janeiro, Brazil. The study was approved by the Research Ethics Committee of the 2 institutions, according to the provisions of Resolution N^{\circ} 466/2012 of the Brazilian National Health Council for research involving human beings, following established guidelines. This study is part of a doctoral thesis and was approved by the Research Ethics Committee of the *Fundação Oswaldo Cruz* in 2013 under protocol no. 480.999. The professionals were interviewed during work breaks and were informed of the purposes of the study, and an informed consent form was signed by the individuals who agreed to participate.

The inclusion criteria included employment in the respective sectors for at least 6 months and transfer to other sectors for the same period to avoid healthy worker bias. Workers who were transferred because of stress-related disorders were included, answered the questionnaire by phone, and subsequently gave their written consent.

A team of 4 previously trained medical residents was coordinated by an adviser and guided each participant in the completion of the questionnaire to avoid missing data and inconsistencies. The data collected formed a database and involved double entry (2 databases for overlapping), data auditing, and data revision to eliminate typos and inconsistencies.

We used a scale adapted and validated for the Portuguese language and based on the short version of the Job Stress Scale (JSS), originally developed in English, and the responses were provided following a Likert scale (1-4) that ranged from "often" to "never/rarely". (34,35) The JSS identified 3 work-related aspects: psychological demands, control over activities, and social support experienced by the workers.⁽¹³⁾ Psychological demand refers to the control of time to perform tasks and resolve conflicts during decision-making. Control over activities is related to the ability to perform tasks and the opportunity to participate in decisions. The aspect "social support", which is defined as the social atmosphere of the workplace and includes emotional aspects and instrumental support at work, was added to the original model. The instrument allows the construction of quadrants resulting from combinations of the following dimensions: "low strain" (combination of low demand and high control), "high strain" (combination of high demand and low control), "passive work" (combination of low demand and low control), and "active work" (combination of high demand and high control).^(13,34) For the construction of the quadrants based on the combination of demand and control dimensions, the scores were summed, and the combinations were classified into high or low, considering the median as the cutoff point.⁽³⁴⁾

Common mental disorders (CMDs) were assessed according to the shortened version of the Self Reporting Questionnaire (SRQ-20), an instrument developed by Harding et al. (1980).⁽³⁶⁾ For instrument validation, the cutoff point of 5 positive answers for men and 7 positive answers for women was considered. This study adopted a cutoff point of 7 for suspicion of development of CMDs on the basis of previous studies on nursing professionals.⁽³⁷⁻⁴¹⁾

BS was measured by applying the Maslach Burnout Inventory (MBI), which is an instrument containing 22 questions.⁽⁴²⁾ The MBI is answered on a 5-point frequency scale and evaluates 3 dimensions: emotional exhaustion (9 questions), depersonification (5 questions), and personal accomplishment (8 questions) in the version adapted and validated for Portuguese using nursing professionals.⁽⁴³⁻⁴⁵⁾ The score was obtained from the sum of the values in each subscale. Cutoff points were used as follows: in the emotional exhaustion subscale, a score of ≥ 27 indicated a high level of exhaustion; a score of 19-26 indicated an intermediate level; and a score of < 19 indicated a low level. In the depersonification subscale, a score of ≥ 10 indicated a high level; a score of 6-9 indicated an intermediate level; and a score of < 6 indicated a low level.^(25,46-48)

Due to the lack of consensus in the scientific literature for diagnosis, a high level of emotional exhaustion and depersonification and a low level of personal accomplishment⁽⁴⁹⁾ or imbalance in a single dimension were used as diagnostic criteria for BS.⁽²⁵⁾ Prevalence was also measured using the criterion of Golembiewski, Manzenrieder, and Carter, who considered only depersonification as a predictor of BS.⁽²⁶⁾ In addition, this study investigated the possibility of evaluating BS using the tertiles obtained for each variable.

Descriptive statistical analysis included measures of central tendency and dispersion and the analysis of frequencies. Each subscale was scored according to the aforementioned standards, in addition to the calculation of standard deviation (SD), 25th and 75th percentiles, and Cronbach's alpha. For statistical analysis, the criterion of Grunfeld et al.⁽²⁵⁾ was used. For data analysis, the Statistical Package for Social Sciences (SPSS) version 21 software was used.

RESULTS

Sociodemographic and work-related variables

The study group was composed of 130 nurses from 2 large federal hospitals. Among them, 58 nurses were mixed

race, indigenous, or East Asians and were classified as multi-ethnic (44.6%). The group was composed of 65 men and 65 women; the mean age was 35 years (28 to 41.2), and 68 participants (52.3%) were older than the mean. A total of 81 participants (62.3%) had completed high school; 54.6% lived with a partner; 68 participants (52.3%) did not have children. The mean income per capita was 7 minimum wages, and 53.8% earned less than that.

The study group included 80 (61.5%) workers in hospital A and 50 (38.5%) workers in hospital B; the study group was composed of 37 nurses (28.5%), 62 nursing technicians (47.7%), and 31 nursing assistants (23.8%). In addition, 78 (60.0%) workers worked in the ICU and 52 (40.0%) in the coronary care unit. The majority (60.8%) had a formal contract, 71.5% were part of the permanent staff of the institution, and 55.4% worked in a mixed shift. The period of employment in the sector was 3 (1-7.25) years. The median length of time in the profession was 12 (5-18) years, and 70 workers (53.8%) had lengths of time lower than this range. The mean weekly workload was 51.0 \pm 19.3 hours, and the participants were equally divided above and below this mean.

Evaluation of psychosocial factors

Most workers (106, 81.5%) reported not thinking about work during their free time. With regard to self-reported levels of stress, 93 professionals (71.5%) reported having an average level of stress. The dimensions "demand", "control", and "social support" had medians of 10 (9-11), 12 (11-14), and 11 (9.75-13) points, respectively.

In the quadrants of the demand-control model, 40 workers (23.8%) performed high-strain, 32 active (24.6%), 27 passive (20.8%), and 31 low-strain (30.8%) work. The prevalence of suspicious cases of CMDs was 27.7%, corresponding to 36 workers.

Burnout syndrome scores description

In this study, the mean values for each subscale were the following: emotional exhaustion, 24.5 points; depersonification, 9.0 points; and personal accomplishment, 30.3 points. The scores obtained for emotional exhaustion and depersonification were among the standard mean values. By contrast, the scores for personal accomplishment were lower than the standard mean values because of the reverse score count, i.e., low scores were considered high values, as shown in table 1.

		Level					
Dimensions investigated	Number of questions		Score High medium low	ı	Mean	Standard deviation	Cronbach's alpha
Emotional exhaustion	9	≤ 27	19 - 26	< 19	24.5	9.3	0.992
Depersonification	8	≥ 10	6 - 9	< 6	9.0	3.4	0.649
Personal accomplishment	5	≤ 33	34 - 39	≥40	30.3	6.9	0.828

Table 1 - Burnout syndrome scores among nursing workers in intensive care units using the Maslach Burnout Inventory

The MBI results indicated that 49 workers experienced high levels of emotional exhaustion (37.7%) with a median of 24 (18-31) points. Depersonification averaged 9 (7-11) points and included 2 strata: a group of 50 workers (38.5%) with intermediate values and a group of 49 workers (37.7%) with high values. The prevalence of personal accomplishment was high, represented by 79 individuals (60.8%) with a median of 30.3 (26-36) points.

The prevalence of BS, calculated according to the criteria of Grunfeld et al.,⁽²⁵⁾ was 55.3%, corresponding to 72 cases considering 1 risk dimension. In addition, 49 cases (37.7%) were found using the criteria of Golembiewski et al.⁽²⁶⁾ In this study, the sum of the scores for each dimension and the inclusion of tertiles allowed the construction of combinations with high, medium, and low values, and 14 cases (10.7%) were identified using these criteria. No cases of BS were identified using the classification of Ramirez et al.,⁽⁴⁹⁾ as shown in table 2.

Suspicion of burnout syndrome and association with socio-demographic, work-related, and psychosocial factors

No significant association was found between the prevalence of BS and the sociodemographic and work-related variables (Table 3).

Several multivariate models were analyzed and adjusted for confounding factors. The workers in the categories "active work" (odds ratio - OR = 0.27; 95% confidence interval - 95%CI 0.09 - 0.81) and "passive work" (OR =0.29; 95%CI = 0.09 - 0.87) experienced protection using this model after adjusting for social support, indicating the decreased likelihood of BS among professionals in these intermediate stress categories. This protection ceased in model 2 with the inclusion of CMDs, although the protection was maintained for the category "active work" after the inclusion of social support and CMDs in this model. In the adjusted model containing the confounding factors, the intermediate stress categories maintained statistical significance as protective factors for BS in the range of 72%-78% (Table 4). Table 2 - Results of the Maslach Burnout Inventory applied to nursing workers in intensive care units, $\mathsf{N}=130$

Dimensions	
Burnout synarome	
Emotional exhaustion	24.5 ± 9.3
Low	44 (33.8)
Intermediate	37 (28.5)
High	49 (37.7)
Intermediate to high	86 (66.2)
Depersonification	9.0 ± 3.4
Low	31 (23.8)
Intermediate	50 (38.5)
High	49 (37.7)
Intermediate and high	99 (76.2)
Personal accomplishment	30.3 ± 6.9
Low	6 (4.6)
Intermediate	45 (34.6)
High	79 (60.8)
Low and intermediate	51 (39.2)
Measurement criteria	
Grunfeld et al. ⁽²⁵⁾	72 (55.3)
Golembiewski et al. ⁽²⁶⁾	49 (37.7)
Ramirez et al. ⁽⁴⁹⁾	00 (00.0)
Dimension tertiles*	14 (10.7)

* Distribution in tertiles of each dimension in combination: high emotional exhaustion; low personal accomplishment, high level of depersonification (tertiles 3, 1, and 3, respectively). Grunfeld et al.⁽²⁶⁾ - high level of motional exhaustion OR high level of depersonification OR low level of personal accomplishment. Golembiewski et al.⁽²⁶⁾ - high level of depersonification (considered the first stage). Ramirez et al.⁽⁴⁰⁾ - high level of motional exhaustion AND high level of depersonification The results are expressed as the means \pm standard deviation and N(%).

DISCUSSION

The findings of the present study are relevant to workers' health, particularly for nursing professionals working in intensive care units, as evaluated by the prevalence of BS reported in Brazil and abroad. High scores were found for emotional exhaustion and depersonification, and the prevalence of suspicion of BS was considerable and revealed the influence of the organization and the nature of the work on these outcomes.

Table 3 -	Prevalence	of	burnout	syndrome	among	nursing	workers	in	intensive
care units	s, N = 130								

Psychosocial variables	Total score in the stratum	N* (%)	p value
Thinking about work during free time			0.009
Yes	24	19 (79.2)	
No	106	53 (50.0)	
Self-reported stress			0.039
No stress	11	8 (72.7)	
Medium stress	93	45 (48.4)	
High stress	26	19 (73.1)	
Number of jobs			0.785
1 job	79	43 (54.4)	
2 or more jobs	51	29 (56.9)	
Karasek quadrants			0.006
High strain	40	29 (72.50)	
Active work	32	13 (40.6)	
Passive work	27	10 (37.0)	
Low strain	31	20 (64.5)	
Social support			0.065
Up to the median (11)	69	33 (47.8)	
Above the median	61	39 (63.9)	
Demand			0.001
Up to the median (10)	71	49 (69.0)	
Above the median	59	23 (39.0)	
Control			
Up to the median (12)	58	30 (51.7)	0.451
Above the median	72	42 (58.3)	
Common mental disorders			< 0.0001
Suspected	36	29 (80.6)	
Not suspected	94	43 (45.7)	

* Indicates the number of suspected cases.

The prevalence of suspicious cases of CMDs was 27.7% (36 cases), i.e., slightly higher than that obtained in previous studies. Silva et al. found a prevalence of 21.3% among nursing workers in ICUs.⁽⁵⁰⁾ The studies of Pinho and Araujo, with emergency nursing workers, and Kirchhof et al., with university hospital nurses, obtained a prevalence of 26.3% and 18.7%, respectively.^(51,52) In these 2 studies, the prevalence in the high-strain group was higher.

With regard to the dimension of emotional exhaustion, this study found a mean of 24 points. The studies of Losa Iglesias et al., with nursing professionals in ICUs in Spain, and Suñer-Soler et al., with medical and nursing staff in Spanish hospitals, obtained 25.19 points and 22.40 points, respectively.^(53,54)

Table 4 - Logistic regression analysis, including the suspected cases of burnout
syndrome, according to criteria of Grunfeld et al. ⁽²⁵⁾ among nursing workers in
intensive care units (N = 72)

Models	Quadrants	OR	95%CI	p value
Model 1	High strain	1.45	0.52 - 3.98	0.472
Unadjusted	Active work	0.37	0.13 - 1.04	0.060
	Passive work	0.32	0.11 - 0.94	0.039
	Low strain	1	-	0.008
Model 2	High strain	1.29	0.45 - 3.69	0.635
+ CMD	Active work	0.38	0.13 - 1.10	0.076
	Passive work	0.36	0.12 - 1.10	0.074
	Low strain	1	-	0.035
Model 3	High strain	1.18	0.41 - 3.36	0.747
+ Support	Active work	0.27	0.09 - 0.81	0.020
	Passive work	0.29	0.09 - 0.87	0.028
	Low strain	1	-	0.004
Model 4	High strain	1.10	0.37 - 3.25	0.853
+ Support $+$ CMD	Active work	0.29	0.09 - 0.98	0.032
	Passive work	0.33	0.10 - 1.02	0.056
	Low strain	1	-	0.023
Adjusted model*	High strain	0.69	0.25 - 1.89	0.472
	Active work	0.26	0.09 - 0.69	0.008
	Passive work	0.22	0.07 - 0.63	0.005
	Low strain	1	-	0.019

OR - odds ratio; 95%CI - 95% confidence interval; CMD - common mental disorders. *Adjusted for gender + age + educational level + weekly workload + salary + thinking about work during free time.

Emotional exhaustion, which is considered intermediate in this study group, is an important factor associated with quality of life. It has been reported that high levels of emotional exhaustion, a central factor in burnout, lead to deterioration in the quality of health and life, emotional distress, and lack of energy and have an inverse association with work performance.^(12,54,55)

This study obtained a mean of 9.00 points for depersonification, which was considered intermediate. The study of Moreira et al. involving nursing professionals in hospitals in Santa Catarina indicated an average of 7.79 points, which is slightly lower than that found in this study.⁽²⁴⁾ However, Xie et al. obtained 11.39 points among nurses in hospitals in China.⁽⁵⁶⁾ Depersonification is a coping strategy that develops after feelings of emotional exhaustion and low personal accomplishment. Using several mechanisms, the worker can become psychologically distant, cold, and cynical and treats patients and colleagues as objects who deserve the problems they have. Furthermore, psychological distancing occurs as a

defensive confrontation strategy, developed to address emotional exhaustion.^(53,55,57,58)

The mean value for personal accomplishment (reverse score) was 30 points, which is considered high. A study by Van Bogaert et al.⁽⁵⁹⁾ with nurses in Belgian hospitals and the study by Xie et al.⁽⁵⁶⁾ found mean values of 34.34 and 34.79 points for this dimension, respectively. The study of Schmidt et al. conducted with nurses in ICUs in Parana, Brazil, obtained 25.00 points for personal accomplishment, which was below the mean found in this study.⁽²³⁾ The perception of the importance of one's own work has undeniable importance for a worker's self-esteem.⁽²⁸⁾ Low personal accomplishment results in decreased productivity and lack of fulfillment at work and may be exacerbated by the lack of social support and opportunities for personal development.⁽⁵⁵⁾ It should be borne in mind that the ICU is a place where difficulties in interpersonal relationships either with the family members of patients or with members of the multidisciplinary team, the desire to abandon work, lack of personal accomplishment, and work overload (e.g., overcrowding, lack of preparation of the technical staff, and inadequate physical space), among other factors, can negatively influence the quality of work.⁽³⁰⁾

It is observed that the values for these variables fluctuated in the countries where the MBI was applied, although the values were similar in the ICU setting. Among the studies that evaluated prevalence, Tironi et al.⁽³³⁾ reported prevalence values similar to those of the present study using the criteria of Grunfeld et al.⁽²⁵⁾

BS has physical and mental consequences for health workers, including cardiovascular disorders, chronic fatigue, headaches, migraines, peptic ulcer, insomnia, muscle or joint pain, anxiety, depression, and irritability, among others.^(54,60) It can also interfere with a worker's personal life, including family relationships, and may cause resentment over the lack of time for child rearing and leisure. It affects the work place through absenteeism, increased work turnover, increases in violent behaviors, and decreases in the quality of work.^(15,28) BS is a gradual process, with a 10-year sensitization period followed by the possibility of increased susceptibility.⁽⁵³⁾

This study found no significant association between sociodemographic and work-related variables and BS most likely because of the small study sample. However, there was an association between psychosocial variables and the prevalence of BS among those who thought about work during their free time (p = 0.009) and among those who reported high levels of stress (p = 0.039). A significant association was also observed using the Karasek quadrants, considering that the prevalence was 72.5% among high-strain workers and 64.5% among low-strain workers (p = 0.006). Low demand had a greater influence on BS compared with high demand 69% (p = 0.001), which, to some degree, indicates that high demand is a determining factor for BS; this result is corroborated by the protective character observed in the active work group after the regression analysis. The data did not remain significant for the aspect "control at work" to allow the establishment of inferences concerning its role in the outcome. The prevalence of suspected cases of CMDs was 80.6% (p < 0.0001), indicating the close relationship between these subjective dimensions.

Although the bivariate analysis obtained significant values for high and low strain, which supports the hypothesis of increased psychological risk among those in these categories, these values were not significant after the logistic regression, suggesting protection in the intermediate quadrants "active work" and "passive work", which are dimensions that encourage the development of new behaviors and creativity according to the precepts of Karasek and Theorell.⁽¹³⁾ Therefore, it can be observed that the diagonal A of the scheme indicated risk after the bivariate analysis, whereas the diagonal B was protective for BS after the multivariate analysis. Tironi et al. used bivariate analysis and found an association between BS during high strain conditions using the demand-control model.⁽³³⁾

For nursing, stress started to receive increased attention with the aim to explore the effects of BS.⁽¹⁹⁾ The nursing staff is more susceptible to the development of BS compared with other professions because of the characteristics of the work itself, which involves a great amount of responsibility for the life of patients and closeness with patients, for whom suffering is almost inevitable.^(12,30,61) The constant interaction between professional standards, integrity of the ego, and patient needs within the therapeutic relationship often leaves nursing workers vulnerable to stress, fatigue, and exhaustion.⁽¹⁹⁾

Previous studies have indicated that health professionals have high values for the different dimensions associated with BS worldwide and that the consequences of BS range from decreased ability to work to labor disputes, which may lead to suicide.^(17,18) These professionals seem to experience specific conditions of occupational stress, and there is evidence of their exposure to high levels of work-related stress, which increase even further among those working in ICUs.^(27,30) High levels of stress are also observed among nursing assistants, nursing technicians, nurses,^(19,61,62) and physicians.^(33,63)

Some limitations of the present study should be considered. The cross-sectional nature of the study imposes temporal limitations because of the inability to assess whether stress caused BS or the reverse. With regard to healthy worker bias, workers who were removed, transferred, and absent from work at ICUs and the reasons for their being away from work were investigated, and workers who were away from work for up to 6 months were included in the database after telephone contact and completion of the questionnaire at the hospital. The self-reported level of stress could be influenced by the dynamics of the work day or week, which could change the worker's perception towards a greater or lesser level of stress. The lack of consensus in the literature concerning the criteria for suspicion of BS is a topic that needs to be addressed. It is believed that the small sample size is a potential limitation for statistical analysis, although several similar studies have shown consistency using smaller sample sizes; of note, to minimize the impact of this variable, this study evaluated the entire population

of professionals working in the ICU. Given the calculation of OR in this sectional study, the possibility of overestimating risk should be considered. Despite the aforementioned limitations, the present results are similar to those of previous studies and contribute to elucidating the relationship between stress, assessed by the JSS, and BS, assessed by the MBI.

CONCLUSION

The observed prevalence of burnout syndrome was 55.3%, which underscores the exposure of nurses to risk factors for stress. This study found significant scores for emotional exhaustion and depersonification and high levels of stress, either self-reported or evaluated using the Job Stress Scale, for workers in the high-strain and low-strain categories; all the variables evaluated were associated with burnout syndrome. In addition, the prevalence of burnout syndrome significantly increased among those who thought about work during their free time and among those suspected of having common mental disorders. After the regression analysis using an adjusted model, active and passive work became a protective factor for burnout syndrome.

RESUMO

Objetivo: Descrever a prevalência da síndrome de *burnout* entre trabalhadores de enfermagem de unidades de terapia intensiva, fazendo associação a aspectos psicossociais.

Métodos: Estudo descritivo seccional realizado com 130 profissionais, enfermeiros, técnicos e auxiliares de enfermagem, que desempenhavam suas atividades em unidades de terapia intensiva e coronariana de dois hospitais de grande porte na cidade do Rio de Janeiro (RJ). Os dados foram coletados em 2011, por meio de questionário auto aplicado. Foi utilizado o *Maslach Burnout Inventory*, para a aferição das dimensões de *burnout*, e o *Self Report Questionnaire*, para avaliação de transtornos mentais comuns.

Resultados: A prevalência de síndrome de *burnout* foi de 55,3% (n = 72). Quanto aos quadrantes do modelo demanda-controle, a baixa exigência apresentou 64,5% de casos prevalentes suspeitos e a alta exigência, 72,5% de casos

(p = 0,006). Foi constatada a prevalência de 27,7% de casos suspeitos para transtornos mentais comuns; destes, 80,6% estavam associados à síndrome de *burnout* (< 0,0001). Após análise multivariada com modelo ajustado para sexo, idade, escolaridade, carga horária semanal, renda e pensamento no trabalho durante as folgas, foi constatado caráter protetor para síndrome de *burnout* nas dimensões intermediárias de estresse: trabalho ativo (OR = 0,26; IC95% = 0,09 - 0,69) e trabalho passivo (OR = 0,22; IC95% = 0,07 - 0,63).

Conclusão: Contatou-se que os fatores psicossociais estavam envolvidos no surgimento de *burnout* no grupo estudado. Os resultados despertaram a necessidade de estudos para intervenção e posterior prevenção da síndrome.

Descritores: Estresse; Esgotamento profissional; Equipe de enfermagem; Saúde do trabalhador; Unidades de terapia intensiva

REFERENCES

- Augusto AG. A dessubjetivação do trabalho: o homem como objeto da tecnologia. Rev Econ Contemp. 2009;13(2):309-28.
- Oliveira EB, Lisboa MT. Exposição ao ruído em CTI: estratégias coletivas de defesa dos trabalhadores de enfermagem. Esc Anna Nery Rev Enferm. 2009;13(1):24-30.
- Martins JT, Robazzi ML. O trabalho do enfermeiro em unidade de terapia intensiva: sentimento de sofrimento. Rev Latinoam Enferm. 2009;17(1):52-8.
- Dejours C. A loucura do trabalho: estudo de psicopatologia do trabalho. 5a. ed. São Paulo: Cortez; 1992.
- Kleinubing RE, Goulart CT, Silva RM, Umann J, Guido LA. Estresse e coping em enfermeiros de terapia intensiva adulto e cardiológica. Rev Enferm UFSM. 2013;3(2):335-44.
- Theme Filha MM, Costa MAS, Guilam MCR. Estresse ocupacional e autoavaliação de saúde entre profissionais de enfermagem. Rev Latinoam Enferm, 2013;21(2): 475-83.
- Versa GL, Murassaki AC, Inoue KC, Melo WA, Faller JW, Matsuda LM. Estresse ocupacional: avaliação de enfermeiros intensivistas que atuam no período noturno. Rev Gaúcha Enferm. 2012;33(2):78-85.
- Guerrer FJ, Bianchi ER. Caracterização do estresse nos enfermeiros de unidades de terapia intensiva. Rev Esc Enferm USP 2008;42(2):355-62.
- Ferrareze MV, Ferreira V, Carvalho AM. Percepção do estresse entre enfermeiros que atuam em terapia intensiva. Acta Paul Enferm. 2006;19(3):310-5.
- Rissardo MP, Gasparino RC. Exaustão emocional em enfermeiros de um hospital público. Esc Anna Nery Rev Enferm. 2013;17(1):128-32.
- Rodrigues VM, Ferreira AS. Fatores geradores de estresse em enfermeiros de unidades de terapia intensiva. Rev Latinoam Enferm. 2011;19(4):1025-32.
- Meneghini F, Paz AA, Lautert L. Fatores emocionais associados aos componentes da Síndrome de Burnout em trabalhadores de enfermagem. Texto Contexto Enferm. 2011;20(2):225-33.
- Karasek RA, Theorell T. Healthy work: stress, productivity, and the reconstruction of working life. New York: Free Press; 1990.
- International Labour Office. Stress prevention at work checkpoints: practical improvements for stress prevention in the workplace. Geneva: International Labour Office; 2011.
- Ayala E, Carnero AM. Determinants of burnout in acute and critical care military nursing personnel: a cross-sectional study from Peru. PLoS One. 2013;8(1):e54408.
- Ferrari R, França FM, Magalhães J. Avaliação da síndrome de burnout em profissionais de saúde: uma revisão integrativa da literatura. Rev Eletr Gestão Saúde. 2012;3(3):1150-65.
- West CP, Halvorsen AJ, Swenson SL, McDonald FS. Burnout and distress among internal medicine program directors: results of a national survey. J Gen Intern Med. 2013;28(8):1056-63.
- Jofre AV, Valenzuela SS. Burnout em personal de enfermería de la unidad de cuidados intensivos pediátricos. Aquichán. 2005;5(1):56-63.
- Raftopoulos V, Charalambous A, Talias M. The factors associated with the burnout syndrome and fatigue in Cypriot nurses: a census report. BMC Public Health. 2012;12:457.
- Souza WC, Silva AM. A influência de fatores de personalidade e de organização do trabalho no burnout em profissionais de saúde. Estud Psicol (Campinas). 2002;19(1):37-48.
- Santini AM, Costenaro RG, Medeiros HM, Zaberlan C. Estresse: vivência profissional de enfermeiras que atuam em UTI neonatal. Cogitare Enferm. 2005;10(3):14-22.
- Nascimento Sobrinho CL, Barros DS, Tironi MO, Marques Filho ES. Médico de UTI: prevalência da síndrome de burnout, características sócio-demográficas e condições de trabalho. Rev Bras Educ Med. 2010;34(1):106-15.
- Schmidt DR, Paladini M, Biato C, Pais JD, Oliveira AR. Qualidade de vida no trabalho e burnout em trabalhadores de enfermagem de unidade de terapia intensiva. Rev Bras Enferm. 2013;66(1):13-7.

- Moreira DS, Magnago RF, Sakae TM, Magajewski FR. Prevalência da síndrome de burnout em trabalhadores de enfermagem de um hospital de grande porte da Região Sul do Brasil. Cad Saúde Pública. 2009;25(7):1559-68.
- Grunfeld E, Whelan TJ, Zitzelsberger L, Willan AR, Montesanto B, Evans WK. Cancer care workers in Ontario: prevalence of burnout, job stress and job satisfaction. CMAJ. 2000;163(2):166-9.
- Golembiewski RT, Munzenrider R, Carter D. Phases of progressive burnout and their work site covariants: critical issues in OD research and praxis. J Appl Behav Sci. 1983;19(4):461-81.
- Albaladejo R, Villanueva R, Ortega P, Astasio P, Calle ME, Dominguez V. Síndrome de burnout en el personal de enfermería de un hospital de Madrid. Rev Esp Salud Pública. 2004;78(4):505-16.
- Galindo RH, Feliciano KV, Lima RA, Souza AI. Síndrome de burnout entre enfermeiros de um hospital geral da cidade do Recife. Rev Esc Enferm USP. 2012;46(2):420-7.
- 29. Murofuse NT, Abranches SS, Napoleão AA. Reflexões sobre estresse e burnout e a relação com a enfermagem. Rev Latinoam Enferm. 2005;13(2):255-61.
- 30. Fogaça MC, Carvalho WB, Cítero VA, Nogueira-Martins LA. Fatores que tornam estressante o trabalho de médicos e enfermeiros em terapia intensiva pediátrica e neonatal: estudo de revisão bibliográfica. Rev Bras Ter Intensiva. 2008;20(3):261-6.
- Santos FD, Cunha MH, Robazzi ML, Pedrão LJ, Silva LA. O estresse do enfermeiro nas unidades de terapia intensiva adulto: uma revisão da literatura. SMAD Rev Eletrônica Saúde Mental Alcool Drog. 2010;6(1):1-16.
- Longhi A, Tomaz CA. Variabilidade da frequência cardíaca, depressão, ansiedade e estresse em intensivistas. Rev Bras Cardiol. 2010;23(6):315-23.
- 33. Tironi MO, Nascimento Sobrinho CL, Barros DS, Reis EJ, Marques Filho ES, Almeida A, et al. Trabalho e síndrome da estafa profissional (Síndrome de Burnout) em médicos intensivistas de Salvador. Rev Assoc Med Bras. 2009;55(6):656-62.
- 34. Alves MGM, Chor D, Faerstein E, Lopes CS, Werneck GL. Versão resumida da "job stress scale": adaptação para o português. Rev Saúde Pública. 2004;38(2):164-71.
- Theorell T, Perski A, Akerstedt T, Sigala F, Ahlberg-Hultén G, Svensson J, et al. Changes in job strain in relation to changes in physiological state. A longitudinal study. Scand J Work Environ Health. 1988;14(3):189-96.
- Harding TW, de Arango MV, Baltazar J, Climent CE, Ibrahim HH, Ladrido-Ignacio L, et al. Mental disorders in primary health care: a study of their frequency and diagnosis in four developing countries. Psychol Med. 1980;10(2):231-41.
- Mari JJ, Williams P. A validity study of a psychiatric screening questionnaire (SR0-20) in primary care in the city of São Paulo. Br J Psychiatry. 1986;118:23-6.
- Ludermir AB, Lewis G. Informal work and common mental disorders. Soc Psychiatry Psychiatr Epidemiol. 2003;38(9):485-9.
- Araújo TM. Trabalho e distúrbios psíquicos em mulheres trabalhadoras de enfermagem [tese]. Salvador: Instituto de Saúde Coletiva, Universidade Federal da Bahia; 1999.
- Araújo TM, Aquino E, Menezes G, Santos CO, Aguiar L. Aspectos psicossociais do trabalho e distúrbios psíquicos entre trabalhadoras de enfermagem. Rev Saúde Pública. 2003;37(4):424-33.
- Silva JL. Estresse e transtornos mentais comuns em trabalhadores de enfermagem. Rev Eletr Enferm. 2008;10(4):1174-5.
- Maslach C, Jackson SE. The measurement of experienced burnout. J Organ Behav. 1981;2(2):99-113.
- Tamayo MR, Tróccoli BT. Construção e validação fatorial da Escala de Caracterização do Burnout (ECB). Estud Psicol (Natal). 2009;14(3):213-21.
- 44. Tamayo MR. Burnout: implicações das fontes organizacionais de desajuste indivíduo-trabalho em profissionais da enfermagem. Psicol Reflex Crit. 2009;22(3):474-82.
- 45. Tamayo MR. Relação entre a síndrome de burnout e os valores organizacionais no pessoal de enfermagem de dois hospitais públicos [dissertação]. Brasília: Instituto de Psicologia, Universidade de Brasília; 1997.

- Asaiag PE, Perotta B, Martins MA, Tempski P. Avaliação da qualidade de vida, sonolência diurna e burnout em médicos residentes. Rev Bras Educ Med. 2010;34(3):422-9.
- 47. Maslach C, Jackson SE, Leiter MP. Maslach burnout inventory manual. 3rd ed. San Francisco: Consulting Psychologists Press; 1996.
- Stress and impairment during residency training: strategies for reduction, identification and management. Resident Services Committee, Association of Program Directors in Internal Medicine. Ann Intern Med. 1988;109(2):154-61.
- Ramirez AJ, Graham J, Richards MA, Cull A, Gregory WM. Mental health of hospital consultants: the effects of stress and satisfaction at work. Lancet. 1996;347(9003):724-8.
- Silva JL, Nóbrega AC, Brito FG, Gonçalves RC, Avanci BS. Tensão no trabalho e a prevalência de transtornos mentais comuns entre trabalhadores de enfermagem. Rev Enferm UFPE. 2011;5(1):1-9.
- Pinho PS, Araujo TM. Trabalho de enfermagem em uma unidade de emergência hospitalar e transtornos mentais. Rev Enferm UERJ. 2007;15(3):329-36.
- 52. Kirchhof AL, Magnago TS, Camponogara S, Griep RH, Tavares JP, Prestes FC, et al. Condições de trabalho e características sócio-demográficas relacionadas à presença de distúrbios psíquicos menores em trabalhadores de enfermagem. Texto Contexto Enferm. 2009;18(2):215-23.
- 53. Losa Iglesias ME, Becerro de Bengoa Vallejo R, Salvadores Fuentes P. Reflections on the burnout syndrome and its impact on health care providers. Ann Afr Med. 2010;9(4):197-8.
- 54. Suñer-Soler R, Grau-Martín A, Font-Mayolas S, Gras ME, Bertran C, Sullman MJ. Burnout and quality of life among Spanish healthcare personnel. J Psychiatr Ment Health Nurs. 2013;20(4):305-13.

- 55. Silva AT, Menezes PR. Esgotamento profissional e transtornos mentais comuns em agentes comunitários de saúde. Rev Saúde Pública. 2008;42(5):921-9.
- 56. Xie Z, Wang A, Chen B. Nurse burnout and its association with occupational stress in a cross-sectional study in Shanghai. J Adv Nurs. 2011;67(7):1537-46.
- 57. Costa LS, Gil-Monte PR, Possobon RF, Ambrosano GM. Prevalência da síndrome de burnout em uma amostra de professores universitários brasileiros. Psicol Reflex Crit. 2013;26(4):636-42.
- Gil-Monte PR, Peiró JM. Desgaste psíquico en el trabajo: el síndrome de quemarse. Madrid: Síntesis; 1997.
- Van Bogaert P, Meulemans H, Clarke S, Vermeyen K, Van de Heyning P. Hospital nurse practice environment, burnout, job outcomes and quality of care: test of a structural equation model. J Adv Nurs. 2009;65(10):2175-85.
- Palazzo LS, Carlotto MS, Aerts DR. Síndrome de Burnout: estudo de base populacional com servidores do setor público. Rev Saúde Pública. 2012;46(6):1066-73.
- Czaja AS, Moss M, Mealer M. Symptoms of posttraumatic stress disorder among pediatric acute care nurses. J Pediatr Nurs. 2012;27(4):357-65.
- 62. Coronetti A, Nascimento ER, Barra DC, Martins JJ. O estresse da equipe de enfermagem na unidade de terapia intensiva: o enfermeiro como mediador. ACM Arq Catarin Med. 2006;35(4):36-43.
- 63. Barros DS, Tironi MO, Nascimento Sobrinho CL, Neves FS, Bitencourt AG, Almeida AM, et al. Médicos plantonistas de unidade de terapia intensiva: perfil sócio-demográfico, condições de trabalho e fatores associados à síndrome de burnout. Rev Bras Ter Intensiva. 2008;20(3):235-40.