Burnout Syndrome and Associated Factors in Intensive Care Unit Nurses

Síndrome de Burnout e Fatores Associados em Enfermeiros de Unidade de Terapia Intensiva

Síndrome de Burnout y Factores Asociados en Enfermeros de Unidad de Terapia Intensiva

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ABSTRACT

Objective: to estimate prevalence and factors associated with Burnout Syndrome in intensive care nurses in a city in the state of Bahia. **Methods:** a cross-sectional, population-based study carried out with 65 intensive care nurses through a self-administered questionnaire, from July to November 2016, containing sociodemographic data, lifestyle, work characteristics. To define burnout syndrome, the Maslach Burnout Inventory was used. **Results:** Burnout Syndrome prevalence was 53.6%, an association was observed with age, tobacco consumption, alcohol use, weekly night shift hours, employment relationship, having an intensive care specialist title, number of patients on duty, monthly income and considering active or high-strain job. **Conclusion:** the results of this study can contribute to expanding the discussion on stressful working conditions in Intensive Care Units.

Descriptors: Nurses; Burnout, Professional; Intensive Care Units; Occupational Health; Cross-Sectional Studies.

RESUMO

Objetivo: estimar a prevalência e os fatores associados à Síndrome de *Burnout* em enfermeiros intensivistas de uma cidade do estado da Bahia. Métodos: estudo transversal, populacional, realizado com 65 enfermeiros intensivistas por meio de um questionário autoaplicável no período de julho a novembro de 2016, contendo dados sociodemográficos, hábitos de vida, características do trabalho. Para definir a Síndrome de *Burnout*, utilizou-se o *Maslach Burnout Inventory*. **Resultados:** a prevalência da Síndrome de *Burnout* foi de 53,6%. Observou-se associação com a idade, consumo de tabaco, uso bebida alcoólica, carga horária semanal de plantão noturno, vínculo de trabalho, possuir título de especialista em terapia intensiva, número de pacientes assistidos por plantão, renda mensal e considerar o trabalho ativo ou de alta exigência. **Conclusão:** os resultados deste estudo podem contribuir para a ampliação da discussão sobre as condições estressantes de trabalho no ambiente de Unidade de Terapia Intensiva.

Descritores: Enfermeiras e Enfermeiros; Esgotamento Profissional; Unidade de Terapia Intensiva; Saúde do Trabalhador; Estudos Transversais.

RESUMEN

Objetivo: estimar la prevalencia y factores asociados al Síndrome de Burnout en enfermeras de cuidados intensivos de una ciudad del estado de Bahía. **Métodos:** estudio poblacional, transversal, realizado con 65 enfermeros de cuidados intensivos mediante cuestionario autoadministrado de julio a noviembre de 2016, que contiene datos sociodemográficos, estilo de vida, características laborales. Para definir el Síndrome de Burnout se utilizó el Inventario de Burnout de Maslach. **Resultados:** la prevalencia del Síndrome de Burnout fue de 53,6%. Hubo asociación con la edad, el consumo de tabaco, el consumo de bebidas alcohólicas, las horas semanales en el turno de noche, la relación laboral, tener un título de especialista en cuidados intensivos, número de pacientes atendidos de guardia, ingreso mensual y considerar trabajo activo o exigente. **Conclusión:** los resultados de este estudio pueden contribuir a ampliar la discusión sobre las condiciones laborales estresantes en el entorno de la Unidad de Cuidados Intensivos.

Descriptores: Enfermeras y Enfermeros; Agotamiento Profesional; Unidades de Cuidados Intensivos; Salud Laboral; Estudios Transversales.

INTRODUCTION

Burnout Syndrome (BS) is defined as a psychological syndrome caused by the body's reaction to chronic stress related to work, in people who have direct and prolonged contact with other human beings, such as Intensive Care Unit (ICU) workers[1]. The term burnout is defined, according to English jargon, as that which ceased to function due to an absolute lack of energy, i.e., that or that which reached its limit, with impairment of its physical or mental performance[1-2].

BS is a condition characterized by emotional exhaustion, depersonalization, and inefficiency [3-4]. Emotional exhaustion refers to depletion of an individual's emotional resources, and, in general, is due to overload and conflict in interpersonal relationships, depersonalization is characterized by professionals' emotional instability, who starts to relate to patients and colleagues in a cold and impersonal way, ineffectiveness, in turn, is related to the feeling of incompetence and negative self-assessment, related to dissatisfaction and unhappiness with work [3-4].

ICU is intended for continuous and intensive care for critically ill patients. It has state-of-the-art technology and has professionals who deal with complex, emergency situations on a daily basis and which require strong emotional balance. These characteristics work as stressors, significantly influencing the health and quality of life of professionals working in this environment [1-5].

Intensive care is a particularly stressful specialty for several reasons, such as living with critically ill patients and with death, daily. The job requires qualified technical knowledge, specific skills, high concentration, quick thinking and emotional control to deal with issues related to patients and their families, in addition to a need for continuous scientific updating considering the technical-scientific development that the specialty has been presenting throughout of the last few years[1]. All of this can overload professionals and increase their vulnerability to burnout development[1,5] in intensive care nurses, who are daily subjected to stressful situations, resulting from numerous factors they are exposed to in the ICU environment.

OBJECTIVE

To estimate prevalence and factors associated with Burnout Syndrome in intensive care nurses in a city in the state of Bahia.

METHODS

Ethical aspects

This study was approved by the Research Ethics Committee of *Universidade Estadual de Feira de Santana* (REC-UEFS), in 2015, meeting all the determinations of Resolution 466 of the Brazilian National Health Council (*Conselho Nacional de Saúde*), which regulates research involving human beings in Brazil[6].

Design, period and place of study

This is an observational, cross-sectional study, guided by the STROBE tool, exploratory and population. All nurses who worked in intensive care at seven public and private hospitals with Intensive Care Units in the city of Feira de Santana, Bahia, were studied. Data were collected from July to November 2016 through a questionnaire.

Population or sample

Of the eighty-five (85) nurses initially eligible, five (05) were not found during data collection and fifteen (15) refused to participate in the study, constituting a population of 65 workers, representing 80% of the initially eligible population. Of these workers, 41.5% (27) work in an adult ICU, 51.0% (33) in a pediatric or neonatal ICU and 7.5% (5) did not respond.

All nurses working in intensive care who consented to participate in the study were considered eligible after reading and signing the Informed Consent Form (ICF). The inclusion criteria were: working at ICU for at least six (06) months, to avoid the bias of a healthy worker. The exclusion criteria were: being on vacation, sick leave and premium and being in administrative activities.

Study protocol

In data collection, a structured and validated instrument was used, consisting of seven blocks of questions about: the sociodemographic profile; general information about ICU work; workplace; psychosocial aspects of work, using the Job Content Questionnaire (JCQ); lifestyle and mental health of workers, using the Maslach Burnout Inventory (MBI) to identify BS.

The self-administered questionnaire, the ICF and a letter of presentation with justification of the work were delivered to each professional in the units, by the researchers, marking the location and time of the return with workers. Professionals who did not return the questionnaire on the scheduled date were contacted by phone, seeking to minimize losses. The questionnaires were returned in sealed envelopes, to guarantee confidentiality and confidentiality.

The Job Content Questionnaire is a questionnaire with 31 control questions (09); Demand (13) and Social Support (09), analyzing the dimensions of control over work, psychological demand and how the combination of these dimensions identifies contexts of risks to workers' health. Questions are measured on a scale of 1 to 4 (1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree) [7]. The psychological demand considers the importance of the activity on workers in relation to time control for carrying out activities related to existing social conflicts [7]. The control over work activity is related to the workers' ability to perform the tasks assigned to them and the opportunity to collaborate in decisions in the workplace[7].

Using the JCQ questionnaire allows building quadrants organized according to the combination of information related to psychological demand and activity control at work, with a combination of low strain and high control being considered as low demands. Passive work corresponds to low demand and low control and active work represents high demand and high control and high strain, high demand and low control[7]. In order to build the demand and control indicators, the sum of the variables related to each of these indicators was performed, observing the weightings provided for in the model. For dichotomization of demand (low/high) and control (low/high), the median was defined as cutoff point.

BS was measured using MBI, an instrument composed of 22 questions about feelings and attitudes that encompass three fundamental dimensions of the syndrome, emotional exhaustion (9 statements), depersonalization (5 statements) and personal fulfillment (8 statements), divided into three scales seven points ranging from 0 to 6[8-9].

Thus, the dimensions that characterize BS were described independently, using cut-off points, considering, for emotional exhaustion, high level of BS (≥ 27 points), moderate level of BS (between 17 to 26 points) and low level of BS (<16 points); for depersonalization, high level (≥ 13 points), moderate level (between 7 to 12 points) and low level (<6 points). The score related to personal achievement goes in the opposite direction to the others, for high level (between 0 to 31 points), moderate level (from 32 to 38 points) and low level (≥ 39 points)[8-9].

There is still no consensus in the scientific literature for BS classification. In this regard, Grunfeld et al. (2000)[10] classify the syndrome by the presence of a high level in one of the three dimensions of MBI, such as exhaustion, depersonalization, and personal fulfillment. This study adopted the criterion Grunfeld et al. (2000)[10], for BS classification.

A pilot study was carried out in a pediatric emergency unit in the city, aiming at verifying the approximate time of completion and clarity of the data collection instrument, with 6 professionals (two physicians, two nurses and two physical therapists). The suggestions were incorporated, having generated some modifications in the original instrument. The work was published in all hospitals that had intensive care units in the city.

Analysis of results, and statistics

In order to minimize typing errors and guarantee the quality control of the typed data, double typing was performed using the EpiData for Windows program, version 3.1. After this procedure, data were exported to the Statistical Package for Social Sciences (SPSS) 9.0 program, for statistical analysis.

Descriptive data analysis was performed by calculating the absolute and relative frequency of categorical variables and measures of central tendency and dispersion of numerical variables. Association analysis was performed between independent variables: age group, sex, on-duty activity, weekly on-duty workload, weekly workload in activities that generate income, monthly income, form of insertion in the labor market (salaried public sector or others), demand (JCQ), control (JCQ) and its quadrants with the result of MBI (presence and absence of burnout), adopted as a dependent variable Prevalence Ratio (PR) was used to measure the association between the variables studied, and the Confidence Interval (CI), with a 95% significance level (CI - 95%), was used to measure statistical significance[11]. Data were presented in tables.

RESULTS

Among the nurses studied, there was a predominance of females 90.8%. It is maintained that nursing is a predominantly female profession[1,12]. The average age found was 33.9 years, with a standard deviation of ± 6.3 and minimum and maximum values in 21 and 52, respectively. With regard to marital status, the majority, 57.0%, reported having a partner. Regarding the number of children, 54.0% reported not having children. With regard to lifestyle, 4.6% reported using tobacco and 50.8% reported using alcohol. As for physical activity, 53.8% practiced it.

Table 1 – Sociodemographic characteristics, lifestyle and factors related to the work of intensive care nurses in a large city in Bahia, Brazil, 2016

Personal and functional characteristics	n*	%
Sex	65	100.0
Female	59	90.8
Male	06	9.2
Age	62	100.0
≤ 34 years old	39	62.9
> 34 years old	23	37.1
Marital status	63	100.0
With companion	36	57.1
No companion	27	42.9
Children	63	100.0
Yes	29	46.0
No	34	54.0
Smoking	64	100.0
Yes	03	4.6
No	61	95.3
Alcoholism	65	100.0
Yes	33	50.8
No	32	49.2
Physical activity	65	100.0
Yes	35	53.8
No	30	46.2
Employment relationship	64	100.0
Public employee	18	28.0
Others (temporary contracts)	46	72.0
Night shift	47	100.0
≤ 24 hours	31	66.0
> 24 hours	16	34.0
Weekly working hours**	61	100.0
≤ 54 hours	31	50.8
> 54 hours	30	49.2
Other work	63	100.0
Yes	40	63.5
No	23	36.5
ICU specialist	56	100.0
Yes	37	66.0
No	19	34.0
Working time in ICU (years)	61	100.0
≤ 6 years	35	57.4
> 7 years	26	42.6
Work sector	60	100.0
Adult ICU	27	41.5
Pediatric and neonatal ICU	33	51.0
Patients under their responsibility	63	100.0
≤ 10 patients	28	44.4
> 10 patients	35	55.6
Income**	63	100.0
Below 3,000.00 to 6,000.00	49	77.8
6,001 to 20,000.00	14	22.2

*Note: ICU - Intensive Care Unit; *Valid answers, excluding those ignored; **Activities that generate income.*

As for professional characteristics, the predominant type of employment contract was the hired worker (contract according to Consolidation of Labor Laws – CLT) combined with other types of temporary contracts, accounting for 72% of the nurses studied, corroborating the precariousness in the employment contracts,

situation often found today[13]. The contract as an employee in the public sector was informed by 28.0% of nurses. It was also observed that the majority, 64.0%, had another job. The average monthly net income varied between 3 and 6 minimum wages to 77.8%, and 22.2% reported an income higher than 6 minimum wages.

Among the workers studied, 66.0% had the title of specialist in intensive care. With regard to working time in ICU, 57.4% had a service time less than or equal to 6 years and 42.6% more than 7 years. Concerning workday, 49.2% reported working more than 54 hours a week in activities that generate income. With regard to work shift, 66.0% reported working at night shift for at least 24 hours a week. It was also observed that the majority of professionals 66.5% worked elsewhere and that, in ICU, most 53.8% cared for 10 patients or more (Table 1).

Table 2 – Frequency of dimensions and Burnout Syndrome prevalence, measured by the Maslach Burnout Inventory in intensive care nurses in a large city in Bahia, Brazil, 2016

Dimensions	n*	%
Emotional exhaustion	61	100
Low	19	31.0
Moderate	17	28.0
High	25	41.0
Depersonalization	62	100
Low	39	63.0
Moderate	19	30.5
High	04	6.5
Ineffectiveness	60	100
High	10	17.0
Moderate	15	25.0
Low	35	58.0
Burnout Syndrome**	56	100
Yes	30	53.6
No	26	44.4

Note: *Valid answers, excluding those ignored; **Burnout Syndrome, classified by the high level in one of Maslach Burnout Inventory dimensions.

Table 3 - Prevalence Ratio and 95% Confidence Interval for the association between sociodemographic variables, lifestyle and Burnout Syndrome in intensive care nurses in a large city in Bahia, Brazil, 2016

Variables	Nurses suspected with Burnout Syndrome			
	n*	Prevalence %	PR	CI
Age				
≤ 34 years	24	63.2	1.37	0.82-----2.33
> 34 years	10	45.5		
Marital status				
With companion	20	57.1	1.06	0.61-----1.89
No companion	14	53.8		
Children				
No	19	57.6	1.07	0.68-----1.69
Yes	15	53.6		
Smoking				
Others	03	100	1.84	1.46-----2.33**
Never	32	54.2		
Alcoholism				
Yes	21	65.6	1.45	1.43-----1.79**
No	14	45.2		
Physical activity				
Yes	14	48.3	0.78	0.49-----1.24
No	21	61.8		

Note: *Valid answers, excluding those ignored; **Statistically significant result.

Table 2 shows the frequency of the dimensions and burnout prevalence, assessed using MBI. Burnout was classified by the high level in at least one dimension of MBI. There was a prevalence of 53.6% of BS among intensive care nurses. When the dimensions were analyzed separately, it was found that 41.0% had a high level of emotional exhaustion, 6.5% depersonalization and 17.0% revealed a low level of personal fulfillment. The frequency of the moderate level of depersonalization was high, 30.5%.

Table 3 presents PR and CI for association between sociodemographic variables, lifestyle and BS in intensive care nurses. The results found revealed a prevalence of 63.2% in professionals aged 34 years or less (PR= 1.37), a result that did not present statistical significance. Nurses who reported having a partner had a prevalence of 57.1% (PR = 1.06). Those who reported not having children had a prevalence of 57.6% (PR = 1.07). Those who reported using tobacco and using alcohol had a prevalence of 100% (PR = 1.84), and 65.6% (PR = 1.45), respectively, statistically significant results. Performing physical activity had the lowest prevalence, 48.3% (PR = 0.78), a result that did not present statistical significance.

Table 4 - Prevalence Ratio and 95% Confidence Interval for association between work-related variables and Burnout Syndrome in intensive care nurses from a large city in Bahia, Brazil, 2016

Variables	Nurses suspected with Burnout Syndrome			
	n*	Prevalence %	PR	CI
Employment relationship				
Public employee	12	66.7	1.28	0.83-----1.96
Others	23	52.3		
Night shift**				
≤ 24 hours	26	65.0	1.39	0.76-----2.50
> 24 hours	07	46.7		
Working hours**				
≥ 36 hours	08	61.5	1.07	0.65-----1.76
< 36 hours	27	57.4		
Other work				
No	25	65.8	1.51	0.90-----2.54
Yes	10	43.5		
ICU specialist				
Yes	33	58.9	2.36	0.43-----13.0
No	01	25.0		
Working time in ICU				
> 7 years	15	57.7	1.01	0.65-----1.56
≤ 6 years	20	57.1		
Work sector				
Adult ICU	18	66.7	1.25	0.82-----1.92
Pediatric and neonatal ICU	16	53.3		
Quantity of patients				
> 10 patients	23	65.7	1.42	0.88-----2.30
≤ 10 patients	12	46.2		
Income***				
≤3,000.00	29	60.4	1.57	0.76-----3.24
3,001 to 20,000.00	05	38.5		

Note: ICU - Intensive Care Unit; *Valid responses, excluding those ignored; **Weekly; ***Activities that generate income.

BS prevalence was found to be higher among nurses who terminated employment in the public sector, 66.7% (PR = 1.28), with a weekly workload of 24 hours at night or less, 65.0% (PR

= 1.39), with a weekly working day equal to or greater than 36 hours, 61.5% (PR = 1.07), who reported not presenting another job, 65.8% (PR = 1.51), who had the title of specialist in intensive care, 58.9% (PR = 2.36), who reported assisting 10 or more patients, 65.7% (PR = 1.42), who worked in an adult ICU 66.7% (PR = 1.25) and who reported monthly income equal to or less than R$ 3,000.00 (*reais* (R$) is Brazil's currency), 60.4% (PR = 1.57). The results found did not present statistical significance (Table 4).

BS prevalence showed differences according to the Demand-Control Model quadrants. The results showed that intensive care nurses who reported active work (high demand and high control) and high-strain job (high demand and low control) had a prevalence of 72.7% and 63.9%, respectively. The PR obtained between high and low strain situations was 1.53; however, this result was not statistically significant (Table 5).

Table 5 - Prevalence Ratio and 95% Confidence Interval for association between Demand-Control Model and Burnout Syndrome groups in intensive care nurses from a large city in Bahia, Brazil, 2016

Demand-Control Model group (JCQ)	Burnout Syndrome			
	n	Prevalence (%)	PR	CI
High strain* ↑ Demand + ↓ Control	14	63.0	—	—
Low strain ↑ Demand + ↓ Control	5	41.7	1.53	0.73—3.20
Passive work ↑ Demand + ↓ Control	6	42.9	1.49	0.75—2.93
Active work ↑ Demand + ↓ Control	8	72.7	0.88	0.54—1.41

*Note: n - valid responses; PR - Prevalence Ratio; 95% CI - 95% Confidence Interval; *PR was calculated with the situation of high strain in the numerator.*

DISCUSSION

The results of this study revealed a high BS prevalence, 53.6%, a worrying result. The professionals studied work in direct assistance to critically ill patients, in which the error in the execution of procedures can represent serious sequel or even the death of patients. Findings from other studies that used the criterion of Grunfeld et al. (2000)[10] presented results similar to those found in this research, namely: Zanatta and Lucca (2015)[14] found a BS prevalence of 50.8% in nurses at a hospital specialized in child oncology and hematology in São Paulo. Ribeiro and collaborators (2014)[15] observed BS prevalence of 55.4% among nurses working in medical clinics in the state of São Paulo. In another study with health professionals that included nursing workers, Silva, et al. (2015)[12], observed a BS prevalence of 55.3%.

Ntantana and collaborators (2017)[16], in a study carried out in Greece, estimated a BS prevalence of 56.9% in health workers who worked at ICU and Al-Dardas and collaborators (2010)[17]. In a study carried out in Saudi Arabia, a BS prevalence of 28.9% was observed among nurses, with a frequency of 45% of the high level in the emotional exhaustion dimension and 28.9% in the depersonalization dimension.

In a survey of nurses working at a large university hospital's ICU in the city of São Paulo, SP, Brazil, BS prevalence was 14.3%[18], identified by the high level, in at least one of the dimensions.

Likewise, in studies conducted in China, Italy and Portugal, they found a burnout prevalence of 16.0%[19], 35.7%[20] and 31.0%[21], respectively. Most of results of the consulted studies revealed high estimates of BS prevalence among intensive care nurses from different countries.

This study observed a higher frequency of the high level in the dimension emotional exhaustion (41.0%), followed by low personal fulfillment/inefficiency (17.0%) and depersonalization (6.5%). In other studies with nurses, rates were found that ranged from 16.1% to 42.6% for emotional exhaustion, from 6.1% to 35.6% for personal fulfillment and 2.4% to 25% for depersonalization[21-24].

In a study conducted by Zhang, Huang, Guan (2014)[19] with intensive care nurses in China, a frequency of 43.2% was observed in the emotional exhaustion dimension, followed by 41.2% in the personal fulfillment dimension and 26, 1% in depersonalization. Thus, the results point to a higher frequency of the high level in the emotional exhaustion dimension among nurses working at ICU.

Concerning the nurses' profile, according to sociodemographic characteristics and life habits, it is a young population, predominantly female, with a partner and without children, supporting Muse's, Love's, Christensen's findings (2015)[24]. In this study, a higher BS prevalence was found among younger individuals in the emotional exhaustion dimension. Other studies with nurses in ICU and in critical units observed a higher prevalence of burnout among younger individuals than those with more advanced age, showing that this population can be considered more exposed to stressful situations, which may be related to the low experience in dealing with critical situations that require quick responses in the workplace[18,24].

Regarding life habits, most reported performing physical activity, not smoking and using alcohol. In this study, an association was observed between physical activity and low burnout prevalence. The consulted literature points to the benefits of physical activity in workers' health, such as cognitive improvement, reduction of stress, symptoms of anxiety and depression, reduction of conflicts in interpersonal relationships and less tired feeling during work activities[25].

The results showed an association between alcohol consumption (alcoholism) and BS. Although it is not possible to qualify these professionals as problem drinkers, the American Nurses Association (2008) estimated that about 10% of nurses are dependent on alcohol and other drugs, which can compromise their health and professional performance, putting safety at risk of patients[26].

Concerning the nurses' profile, according to the job variables, the average time of work at ICU was approximately 6 years, similar to that found in another study with these professionals[21]. There was a high workload in other paid activities in the nursing field. Most have a specialization degree in intensive care and declared to receive a monthly income between R$ 3,000.00 and R$ 6,000.00.

The authors corroborate that imbalance between salary and workload can significantly increase the probability that nurses will have BS[21]. The category of nursing, even today, struggles to define a minimum salary. Most nurses reported working elsewhere, this fact may be related to a search for increased income. In a study by Zanatta and Lucca (2015)[14], it was observed that

35.1% of nurses had two employment relationships, which can contribute to work overload[14,27-28].

Most workers studied showed that they assisted more than 10 patients per shift and BS prevalence was higher than those who reported assisting less than 10 patients per shift. ANVISA Board Resolution (RDC) 26, published on May 11, 2012, defines that nurses assisting in ICU must assist, at most, ten patients (1:10)[29]. Considering that nurse-patient relationship can be associated with quality care with safety and efficiency, corroborates Resolution COFEN 543/2017[30], which considers the quantitative and qualitative of nursing professionals to directly interfere with patient care safety and quality[31].

The authors corroborate that patient safety influences the improvement of quality in health services and is related to good care practices[32]. The concern for patient safety aims to reduce the risk of harm associated with the care provided by health workers to an acceptable minimum[33]. It is important to highlight that ICU is a sector that serves people in serious condition who need immediate care and in adequate conditions. Thus, the overload of demands in the ICU environment and BS occurrence among nursing workers can impair the quality of care provided, putting patients' safety at risk[34].

BS prevalence was high in all Demand-Control Model quadrants. The intensivist nurses studied had a higher BS prevalence than that found in other studies[13,20-21]. There was a high BS prevalence in high strain situation, confirming the main prediction of the model, that work in high strain (high demand and low control) presents a greater risk to workers' mental health. High BS prevalence in active work situation (high demand and high control) was an unexpected finding, considering that, in most studies, a higher prevalence is observed in the passive work situation. These findings suggest that, although professionals consider that their work has high control, high demand seems to be more associated with mental distress. This result corroborates that obtained by Tironi and collaborators (2009)[5], who found a high BS prevalence in high strain situation, confirming demand as the most important component for mental distress in intensive care workers.

Study limitations

It is important to highlight some limitations of the cross-sectional study, such as the evaluation of the relationship between exposure and outcome at the same time, which provides only a picture of the situation, making it impossible to establish a causal link. It is also important to consider the effect of healthy workers on the prevalence found. In these studies, healthy workers are selected, excluding sick workers who are away from work. Moreover, as this is an exploratory study, interaction and confounding analyzes were not carried out, procedures that allow establishing more robust evidence. Finally, in studies that use self-administered questionnaires, even though they are validated and widely used in research, they have difficulties in controlling data losses.

Contributions to nursing

Studies on BS prevalence in intensive care nurses are still scarce. Although it is a population that has specific characteristics, the findings revealed a high BS prevalence, which encourages further investigations, which can more precisely identify the factors associated with this prevalence in Intensive Care Units.

CONCLUSION

The results revealed a high BS prevalence and a high workload among intensive care nurses. An association was observed between BS and age equal to or below 34 years, tobacco consumption, use of alcoholic beverages, night shift hours equal to or less than 24 hours, not having another job, having a title of specialist in Therapy Intensive, assisting 10 or more patients per shift, perceiving monthly income equal to or less than R$ 3,000.00 and considering active or high-strain job.

The results of this study can contribute to a discussion about working conditions in the ICU environment that exposes nursing workers to stressful factors, especially when caring for patients in critical situations and at risk of death.

ERRATUM

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