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Prevalence of the Burnout Syndrome and associated factors in intensivist physical therapists

Prevalência de Síndrome da Estafa Profissional e fatores associados em fisioterapeutas intensivistas

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RESUMO | INTRODUÇÃO: Os estudos sobre síndrome de burnout em fisioterapeutas intensivistas são raros e muitos desses profissionais ainda desconhecem esta síndrome. **OBJETIVO:** Estimar a prevalência e os fatores associados da Síndrome da Estafa Profissional (burnout), em Fisioterapeutas trabalhadores de Unidade de Terapia Intensiva adulto, pediátrica e neonatal de uma cidade da Bahia. **MÉTODOS:** Estudo epidemiológico de corte transversal, em uma população de 60 fisioterapeutas trabalhadores de Terapia Intensiva na cidade de Feira de Santana, Bahia. Um questionário autoaplicável avaliou dados sociodemográficos, características do trabalho e a síndrome de burnout por meio do *Maslach Burnout Inventory* (MBI). **RESULTADOS:** 51,7% trabalhavam em UTI adulto, 20,0% em UTI pediátrica e 28,3% em UTI neonatal, muitos profissionais trabalhavam em duas ou mais unidades, 80,0% do sexo feminino e 20,0% do sexo masculino, com média de idade de 32,2 ± 4,9, 55,0% era solteiro e 45,0% tinha companheiro, 58,3% não tinham filhos e 41,7% tinham filhos. A prevalência da síndrome de burnout foi de 33,3%, considerando - se o nível alto em pelo menos uma das três dimensões do MBI. **CONCLUSÃO:** Observou-se elevada prevalência da síndrome de burnout entre os fisioterapeutas intensivistas estudados. Os resultados estimulam a se continuar investigando as condições de trabalho e outros fatores que podem estar associados a essa elevada prevalência.

PALAVRAS-CHAVE: Esgotamento profissional. Fisioterapeutas. Prevalência. Unidade de Terapia Intensiva.

ABSTRACT | INTRODUCTION: Studies on burnout syndrome in intensivist physical therapists are rare and many of these professionals are unaware of this syndrome. **OBJECTIVE:** To estimate the prevalence and associated factors of professional burnout syndrome in physical therapists working in adult, pediatric and neonatal intensive care units in the state of Bahia, Brazil. **METHODS:** A cross-sectional study was carried out in a group of 60 physical therapists working in intensive care in the city of Feira de Santana, Bahia, Brazil. A self-administered questionnaire assessed sociodemographic data, work characteristics, and burnout syndrome was assessed using the Maslach Burnout Inventory (MBI). **RESULTS:** 51.7% worked in adult ICU, 20.0% in pediatric ICU and 28.3% in neonatal ICU; in addition, several professionals worked in two or more units. The mean age was 32.2 ± 4.9 years, 80,0% were female and 20.0% male, 55.0% were single, 45.0% had a partner, 58.3% had no children and 41.7% had children. The prevalence of burnout syndrome was 33.3%, considered a high level in at least one of the three dimensions of the MBI. **CONCLUSION:** We observed a high prevalence of burnout syndrome among the intensivist physical therapists studied. The results support further investigation of the working conditions and other factors that might be associated with this high prevalence.

KEYWORDS: Professional exhaustion. Physiotherapists. Prevalence. Intensive Care Unit.

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Introduction

Mental health of workers gained ground in academic discussions in the last decades. The concerns, addressed extensively in the literature, describes health professionals who are often exposed to physical and mental overload, especially physical therapists of intensive care units (ICU), who are vulnerable to chronic stress related to work, once rehabilitation requires a strong interaction with the patient[1].

Job stress occurs when the workers exceeds their ability to cope with excessive work[2]. When the stress becomes constant it can trigger the burnout syndrome; a psychological syndrome caused by chronic stress in workers who have prolonged contact with other humans[3], for example an intensivist physical therapist who has direct and frequent contact with critical patients and their relatives.

The work stress in ICU's occurs mainly because it is a closed environment, with an accelerated pace of work, demanding routines with fast decisions, people's suffering and the constant presence of death, uncertainty and workload that generates an imbalance in physical and psychological health[4].

Intensive therapy is particularly stressful for a number of reasons, especially for dealing with people's suffering and death daily. The work requires qualified technical knowledge, skills, attention, fast reasoning and emotional control to deal with issues related to patients and their families, as well as continuous scientific updating, in face of the rapid development that the specialty presents in recent years[5].

Burnout syndrome is characterized by emotional exhaustion, depersonalisation, and personal accomplishment. Emotional exhaustion refers to both physical and mental exhaustion of the individual. It is considered the beginning of the syndrome and stems mainly from overload and personal conflict in interpersonal relationships. Depersonalisation is not an indication that the individuals no longer have their personality, but they are changing, i.e., emotional instability that leads the professional to a cold and impersonal contact with patients and co-workers. Finally, personal accomplishment or the feeling of dissatisfaction with the work activities and the negative self-evaluation leads to an excessive and prolonged levels of stress at work[3,6].

The physical therapist is a member of a multidisciplinary team in the ICU, through the regulation 3432/98 of the Ministry of Health. It also defines the proportion of beds per professional, which should be 10 beds per 1 physical therapist for the morning and afternoon shifts, composing the basic health team, together with doctors and nurses[7].

In the national literature, studies on burnout syndrome in physical therapists are rare and most of the professionals are unaware of this syndrome. However, the international literature is the opposite. A study conducted in a hospital in Massachusetts found a prevalence of 46% of emotional exhaustion, 20% of depersonalization and 60% of inefficiency in physical therapists[8]. In the study by Pavlakis, Raftopoulos and Theodorou[1], conducted in the Republic of Chyprus, the prevalence of burnout in physical therapists was 13.8% of those working in the public sectors and 25.5% of those working in private sectors.

A study conducted in Japan revealed that physical therapists had an emotional exhaustion score of 25.42, depersonalization of 8.21 and ineffectiveness of 29.74, and the authors considered a moderate degree of burnout among the interviewees[9]. Another study with physical therapists working in acute care hospitals reported that burnout syndrome relates to stress in the workplace, but also to the personality of the individual. The authors defined the syndrome as a feeling of emotional and physical exhaustion, along with a deep sense of frustration and failure[10].

The study aims to estimate the prevalence and associated factors of professional burnout syndrome in physical therapists working in adult, pediatric and neonatal intensive care units in the state of Bahia, Brazil.

Material and methods

A cross-sectional, population-based, exploratory cross-sectional study was carried out with all physical therapists working at the ICU in the city of Feira de Santana, Bahia, Brazil. Feira de Santana has a territorial area of 1,337,993 km^2, and in 2016, a population of 622,639 inhabitants, according to the Brazilian Institute of Geography and Statistics (IBGE)[11].

The population of intensivist consisted of 60 physical therapists working in seven of the eight hospitals that had Intensive Care Units. The participants agree and were authorized to participate in the study by the hospital board of directors. One of the hospitals did not authorize the research, but the intensivist physical therapists, who worked in this unit, were interviewed because they also worked in other hospitals participant in the study.

The study was approved by the Research Ethics Committee of Universidade Estadual de Feira de Santana (CEP/UEFS), registry number 1.355.188, complying with determinations of Resolution 466/2012[12]. Data collection occurred from July to September 2016.

For data collection, we used a self-administered questionnaire composed of nine blocks of questions: general identification, information about the job, psychosocial characteristics of the work, professional burnout syndrome, quality of life, ability to work, aspects related to health, lifestyle habits and sleep pattern and stress factors in the ICU. The information collected was kept anonymously.

Each professional in the units received the questionnaire and the consent form from the researchers. They returned the questionnaire on the same day at a location and time specified. The professionals who failed to return the questionnaire on the same day of the collection were contacted by phone to ensure the return of the questionnaire answered. The questionnaires were returned on sealed envelopes to ensure confidentiality.

In order to identify burnout, the Maslach Burnout Inventory (MBI), composed of 22 statements about feelings and attitudes that encompass three fundamental dimensions of the syndrome, was used. The questionnaire scores range from 0 to 6, and it is possible to describe independently each of the dimensions. Emotional exhaustion is evaluated by nine items, depersonalisation by five and personal accomplishment by eight. For emotional exhaustion, a score ≥ 27 indicates high level of exhaustion; from 17 to 26 moderate level; and less than 16, low level. For depersonalisation, scores ≥ 13 indicate high level of depersonalisation, from 7 to 12 moderate and lower than 6, low level. The personal accomplishment score goes in the opposite direction to the others, since scores from 0 to 31 indicate high level, from 32 to 38 moderate, and ≥ 39, low level[6].

There is no consensus in the literature for the interpretation of the MBI scale; therefore, we applied the criteria by Tucunduva et al.[13] that characterizes professional burnout the presence of at least one of the three dimensions with high levels. We conducted a pilot study at a pediatric emergency unit in the city to verify the approximate time spent to complete the questionnaire, and the clarity of the instrument. Six professionals participated: two physicians, two nurses and two physical therapists. Suggestions were given that were applied to the original instrument.

To confront the information and identify possible digitalization errors, the data were entered twice using the program EpiData for Windows version 3.1, to guarantee consistence of the information. After that, data were exported to the Statistical Package for Social Science (SPSS) version 20.0, available from the Situation and Epidemiological and Statistical Analysis Room of the Department of Health of the Universidade Estadual de Feira de Santana (SSAEE / DSAU / UEFS). The descriptive analysis of the data was conducted based on the absolute and relative frequencies of the categorical variables and the average of the numerical variables. The data collected were presented in tables.

The association between the independent variables: age, sex, marital status, being a parent, monthly income and years of work. Also between the variables related to the work condition, such as: workload in hours at the ICU, weekly workload in the ICU, workload night shift in the ICU, total workload during the week, and if worked in another job before the shift at the ICU. The results of the MBI were the dependent variables. The Prevalence Ratio (PR) was used to measure the associations between the variables studied and the 95% Confidence Interval (CI - 95%) was used to measure statistical significance.

Results

Of the intensivist physical therapists studied, 51.7% worked in adult ICU, 20.0% in pediatric ICU, 28.3% in neonatal ICU, and several professionals worked in two or more units.

Among those studied, 80.0% were female and 20.0% male. The majority aged between 24-33 years old (60.0%), with a mean age of 32.2 ± 4.9. Regarding the marital status, 55.0% were single, 45.0% had a companion. Of the physical therapists studied, 58.3% had no children and 41.7% had children. In relation to level of education, 76.7% had specialization, of those, 43.3% in intensive therapy. Regarding skin color, 53.3% reported brown, 30.0% white, 8.3% black, 6.7% yellow and 1.7% unknown.

In relation to their net monthly income, 18.3% had net income of R$ 0 to 3,000.00, 63.3% of R$ 3,001.00 to 6,000.00, 11.7% of R$ 6,000.00 to 10,000.00, and 6.7% in the range of R$ 10,001.00 to 20,000.00 (Table 1).

Table 1. Sociodemographic characteristics of the sample of intensivist physical therapists. Feira de Santana, Bahia, 2016

Características sociodemográficas dos fisioterapeutas intensivistas	N*	%
Sexo		
Feminino	48	80,0
Masculino	12	20,0
Faixa Etária		
≤ 33 anos	36	60,0
34 anos ou mais	24	40,0
Situação Conjugal		
Solteiro	33	55,0
Com companheiro	27	45,0
Filhos		
Não	35	58,3
Sim	25	41,7
Renda Mensal		
≤ 3.000,00	11	18,3
3.000,00 – 6.000,00	38	63,3
6.000,00 – 10.000,00	7	11,7
10.000,00 – 20.000,00	4	6,7

Nota: * Respostas válidas excluídas as ignoradas

The majority of the physical therapists (63.3%) had up to 5 years of work time in ICU's and 36.7% worked over 5 years, and 22% of the professionals had worked in ICU's. Regarding the number of hours worked in the ICU, 55.0% worked on a 24-hour shift, 41.7% on a 12-hour shift, and 3.3% in different workload shifts. In relation to the weekly workload, the majority, 63.4%, had workloads ranging from 24 to 30 hours, 31.8% from 36 to 78 hours, and 5.0% up to 12 hours a week.

Regarding the night shift, 90.0% had 12-24 hours and 10.0% had shifts of 36-96 hours, with a mean of 19.3 and a median of 12 hours per night. In relation to the total weekly workload, considering all the activities that generate income, the average workload was 57.3, and the median 55.5 hours per week, with 46.6% working more than 56 hours, and 53.4% working less than 56 hours per week. Most physical therapists (26,7%) worked for private employees, 23.3% for public employees, followed

by cooperative system (21.7%) and others 28.2% (service provider, temporary contract and legal person), and 39% work in two or more hospitals (Table 2).

Table 2. Work characteristics of the intensivist physical therapists. Feira de Santana, Bahia, 2016

Características funcionais dos fisioterapeutas intensivistas	N*	%
Tempo de Trabalho (anos) (N= 60)		
≤ 5 anos	38	63,3
≥ 6 anos	22	37,7
CH de Trabalho em UTI (N= 60)**		
24 horas	34	56,7
12 horas	24	40,0
Outros	2	3,3
CH Semanal de Trabalho em UTI (N=60)		
12 horas	3	5,0
24 – 30 Horas	39	65,0
36 – 78 Horas	18	30,0
CH de Plantão Noturno em UTI (N= 60)		
12 – 24 Horas	54	90,0
36 – 96 Horas	6	10,0
CH total semanal (n=57)		
≤ 56 horas	30	52,6
Maior que 56 horas	27	47,4
Vínculo Institucional (N=60)		
Assalariado privado	17	28,3
Assalariado público	14	23,3
Cooperativado	13	21,7
Outros***	16	26,7

Nota: * Respostas válidas excluídas as ignoradas/ **CH =Carga horária/ ***Outros: prestador de serviço, contrato temporário e pessoa jurídica

The prevalence of burnout syndrome was observed in 33.3% when the criterion of higher level in at least one of the three dimensions was adopted. The separate analysis of the dimensions of burnout indicated a prevalence of 38.3% of emotional exhaustion, followed by depersonalization of 16.7%, and ineffectiveness of 15.0% (Table 3).

Table 3. Prevalence of burnout in each dimension in a sample of intensivist physical therapists. Feira de Santana, Bahia, 2016

EMOTIONAL EXAUSTION	N	%
High	23	39.0
Moderate	19	32.2
Low	17	28.8
DEPERSONALISATION		
High	10	16.9
Moderate	7	11.9
Low	42	71.2
PERSONNAL ACCOMPLISHIMENT		
High	9	15.3
Moderate	23	39.0
Low	27	45.8
Total	59	100
HIGH BURNOUT LEVEL ON THE DIMENSIONS		
In one dimension	20	33.9
In two dimensions	8	13.6
In three dimensions	2	3.4

The association analysis presented in table 4 indicated a high association (PR greater than 1.5) between the sociodemographic variables sex, age and have children with burnout syndrome (high score in at least one of the three dimensions), and the analysis of the association presented in table 5 indicated a high association (PR greater than 1.5) between the characteristics of the work, night shift workload and total weekly workload with burnout syndrome, but these results were not statistically significant.

Table 4. Association measured by the prevalence ratio (PR) between the sociodemographic characteristics and high level in at least one burnout dimension in the sample of intensivist physical therapists. Feira de Santana, Bahia, 2016

Sociodemographic characteristics	High burnout level in one dimension					
	Yes	%	No	%	PR*	CI**
Sex (n=60)						
Masculine	6	50.0	6	50.0	**1.71**	0,83-3,51
Feminine	14	29.1	34	70.9	-	
Age (n= 60)						
34 years or more	10	41.7	14	58.3	**1.50**	0,73-3,04
≤ 33 years	10	27.8	26	72.2	-	
Children (n=60)						
No	14	40.0	21	60.0	**1.66**	0,74-3,73
Yes	6	24.0	19	76.0	-	

*PR: Prevalence Ratio; **CI: Confidence Interval

Table 5. Association measured by the prevalence ratio (PR) between the characteristics of the work and high level in at least one burnout dimension in the sample of intensive physical therapists. Feira de Santana, Bahia, 2016

Work characteristics	High burnout level in one dimension					
	Yes	%	No	%	RP	CI
Workload shift (n= 60)						
More than 12 hours	9	42.9	12	57.1	**1.51**	0,75-3,07
≤ 12 hours	11	28.2	28	71.8		
Weekly total workload (n=58)						
More than 56 hours	12	44.4	15	55.6	**1.72**	0,82-3,57
≤ 56 hours	8	26.7	23	73.3		
Comes from another job (n=60)					**1.41**	0,69-2,86
Yes	9	42.9	13	57.1		
No	11	28.9	27	71.1		

Discussion

Our study presented a profile of intensivist physical therapists mostly young, female, single, with up to 5 years working in ICU's, monthly net income in the range of R$3,001.00 to 6,000.00, usual workload shift of 24 hours, weekly workload of 24 to 30 hours, workload night shift of 12 to 24 hours, employees of private or public sectors, working in two or more hospitals and caring for 10 patients per shift. The prevalence of burnout syndrome found in this study was somewhat lower than that observed in the Tironi's study[14], who found a prevalence of 63.8% among physicians working in an adult ICU, and 56.6% for those working on pediatric and neonatal ICU's.

When analyzed separately, the most affected dimension was exhaustion with a prevalence of 38.3%, which is a result of the work demands, and may be related to the workload that could be both physical and emotional[15]. Depersonalization was the second most affected dimension with a prevalence of

16.7% and, finally, ineffectiveness of 15.0% - these results were similar to the prevalence found in other studies with physical therapists. In the study by Gisbert et al.,[16], 35.3% presented high level of exhaustion, 21.3% of depersonalisation and 19.4% of personal accomplishment and in the study of Nowakowska-Domagala et al.,[17] was found in the sample studied, a prevalence of 17% of the sample studied a high level of exhaustion, 16% of depersonalisation and 15% of personal accomplishment.

The profile of the professionals analyzed in the present study was consistent with other studies conducted with physical therapists[18], such as: predominantly female, single, mean age less than 40 years and with up to 5 years of work experience as physical therapists. Similar as well to other studies(19), (20) with ICU nurses, that studied predominantly female and age less than 40 years. Regarding the female predominance, various studies reinforced that health work is more geared towards the female sex because it has characteristics inherent in caring, dedication, multiplicity of functions and affectivity[19, 21]. The younger age group occupying the ICU work could be related to the type of work activity that demands high physical demands[20].

In the studies analyzed in a systematic review, the results of the association between the variables age, gender, marital status, had or not children, number of hours worked and burnout syndrome were different, and there was no consensus regarding the association between sociodemographic variables and the dimensions of burnout[18].

In the present study, working as a physical therapist ≥ 6 years presented a PR of 1.41, but in the studies found in the literature[8, 22-25], the physical therapists who were susceptible to develop the syndrome of professional exhaustion were those working <5 years. In addition, time working as physical therapist was not associated with the onset of symptoms. In the present study, the amount of time working was associated with burnout syndrome.

Despite the lack of studies in the literature associating the burnout syndrome with the work characteristics of intensivist physical therapists, our study demonstrated a significant association of workload (weekly workload, workload night shift, and any activity that generates income during the week) with burnout syndrome. Some studies[10,15] reported that an increase in workload leads to a decrease in the contact of the professional with the patient, affecting the quantity of care to the patient. It would also affect the quality of care provided to the users of the health services.

It is important to pinpoint some methodological issues: The cross-sectional nature of the study prevents a causal relationship, although we point out important associations between burnout syndrome and the variables studied. The small sample size halted us in performing confounding and interaction analyzes, important procedures for more robust conclusions. The use of a self-administered questionnaire based on the perception and comprehension of the respondent could influence the results, in addition to incomplete answers. Finally, the shortness of studies addressing burnout in physical therapists working in intensive care units hinders the comparison and discussion of the results.

Conclusion

The results showed a high prevalence of burnout syndrome among the physical therapists studied when considering the high-level criterion in at least one of the dimensions evaluated, and low prevalence when considering the high level in all dimensions. The dimension of emotional exhaustion contributed the most to the result, which indicates the need to review the working conditions of these professionals and to adopt measures that could modify these results. Therefore, the results support investigating the working conditions of these professionals and the factors that may be associated with high prevalence of burnout.

Authors contributions

Santos CLC, Barbosa GB, Nascimento DSS, Martins Júnior DF e Nascimento Sobrinho CL participated in the development, design, search of articles and statistical analysis of the data, interpretation of the results and writing of the scientific article.

Conflicts of interest

No financial, legal, or political conflict involving third parties (government, business and private foundations, etc.) was declared for any aspect of the work submitted (including but not limited to grants and funding, advisory board, study design, manuscript preparation, statistical analysis, etc.).

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