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Prevalence and risk factors of Burnout syndrome in emergency physicians of public hospitals in the Principality of Asturias, Spain

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Abstract

Introduction

Burnout syndrome (BS) is a state of fatigue or frustration produced by dedication to a cause, lifestyle or relationship that does not produce the expected reinforcement. BS has three dimensions: Emotional Exhaustion (EE), Depersonalization (D) and Low Personal Achievement (PA) and can be measured with the Maslach Burnout Inventory (MBI). The objective was to determine the prevalence of BS among hospital emergency physicians in the Principality of Asturias and its relationship with sociodemographic, occupational, health, and perceived stress variables, as well as knowing the risk of suffering BS.

Methods

Multicenter observational cross-sectional study among general practitioners of the emergency services of reference hospitals in the eight health areas of the Principality of Asturias. A questionnaire with 48 questions in two sections was used: (1) Sociodemographic, labor, job satisfaction, perceived health, and stress data; and (2) MBI Questionnaire.

Results

There were 137 valid questionnaires (response rate 70.26%). 18.2% of the physicians had BS. In the EE dimension, 47.45% had a low level of burnout, 26.28% a medium level and 26.28% a high level. In dimension D, 16.79% presented low levels of burnout, 30.6% medium level and 52.55% high level. In the PR dimension, 1.46% had high levels, that is, a low level of burnout, 21.9% had a medium level of burnout, and 76.64% had low levels of PA that is related to a high level of exhaustion In relation to the risk of suffering burnout, 70.1% had a high risk while 11.7% had no risk.

Conclusions

Physicians working in the emergency services of our public hospitals have a prevalence and a risk of suffering BS related to specific aspects of their practice that are identifiable (work hours, continuous training, leadership of the department heads, participation in decision making, etc.). Many of these risk factors are preventable through proper organizational strategies. For this reason, the health authorities should implement measures aimed at reducing BS among doctors in the emergency services who have a higher score on BS scales, in order to avoid the impact that this problem has on the safety and quality of healthcare in emergency services.

Keywords: Burnout, emotional exhaustion, emergency doctors, risk factors.

Introduction

The Syndrome of "burnout" (BS) is a kind of response to prolonged stress due to work factors affecting negatively mind a person in the form of physical and mental exhaustion. It was first described in 1974 by Freudenbergen as a state of fatigue or frustration that results from dedication to a cause, lifestyle, or relationship that does not produce the expected reinforcement. [1] . A few years later, Maslach studied BS in workers from different fields, especially health, and associated with absenteeism, or to low morale and even alcoholism, mental illness, family conflict and suicide [2] .

In 1981, Maslach and Jackson defined the three dimensions of the syndrome: (I) Emotional exhaustion (EE) as a situation of exhaustion of energy and emotional resources as a consequence of daily contact and continued with the people to be cared for and who present problems or are problematic; (II) Depersonalization as the development of negative attitudes and feelings towards the recipients of work and personal fulfillment, and (III) and Low Personal Achivement as the tendency of professionals to qualify negatively in relation to the work they do and deal with people)[3]. Maslach and Jackson also developed a measuring instrument to detect BS, the Maslach Burnout Inventoy (MBI), a self-administered questionnaire about personal feelings and ways of acting in the professional field towards people and their work.[4] .

Due to the specific characteristics of healthcare work (high pressure, demand for results, lack of adequate rest, excessive hours of work or civil and criminal liability for any medical act), the health personnel of the emergency and emergency services are a group with high risk of suffering from BS [5] , which can affect the quality of healthcare and increase self -medication and suicide rates among professionals[6] . One of the aspects that has shown to increase the prevalence of burnout is a high workload.[7] .

The objective of this work was to determine the prevalence of burnout among the emergency physicians of the reference hospitals of the eight health areas of the Principality of Asturias (Spain) and its relationship with the sociodemographic, occupational, health status and perceived stress variables, as well as study the risk of suffering BS. In addition, the three dimensions that characterize burnout syndrome and their relationship with these variables were analyzed.

Method

A multicenter observational cross-sectional study among general practitioners of the emergency services of reference hospitals in the eight health areas of the Principality of Asturias was made using a questionnaire with 48 items divided in two sections: (I) Sociodemographic, labor, job satisfaction, perceived health, and stress data; and (II) MBI Questionnaire.

The inclusion criteria were being a doctor assigned to the emergency services of reference hospitals in the health areas of the Principality of Asturias, being service personnel during the data collection phase and agreeing to participate. The questionnaires collected without filling out or incorrectly completed were excluded from the study.

We used a questionnaire with 48 questions divided into two sections: (I) Sociodemographic, labor data, job satisfaction, perceived health and stress; and (II) MBI. In section I the following sociodemographic variables were collected: age, sex, marital status and number of children.

Regarding labor variables: work hospital, professional exercise time (not counting the training period), exercise time in the emergency department, working condition, offering the center to carry out training activities, carrying out training activity in the last year and consideration of your work as a vocational emergency professional. Regarding the variables of job satisfaction: desire to change work shifts, satisfaction with the work performed, satisfaction with the support of the management of the center, satisfaction with the support of the management of the emergency department, satisfaction with colleagues work and satisfaction with the global assessment of professional experience. About the variables of perceived stress and health: definition of self health status, number of sick leave in the last year with the number of days, perception of stress in daily work ("Does the development of your daily work stress? ") and perception of the influence of stress in their own state of health (" What influence do you consider occupational stress to have on your state of health? "). In section 2, the MBI was collected, which is subdivided into 3 scales: Emotional Exhaustion (EE) subscale, which refers to the decrease or loss of emotional resources or to having feelings of being overwhelmed and emotionally tired due to the demands of work; Depersonalization subscale (D), referring to negative feelings and attitudes towards the patient and to the impersonality and not very sensitive attitude towards the people attended and the Personal Achievement (PA) subscale, related to feelings of competence, efficiency and accomplishment at work.

To assess the degree of burnout, the values obtained in each dimension were taken as a reference, using a scale of three categories: Low (EE≤15, D≤3, PA ≥40), Medium (EE:16-24, D:4 -9, PA: 34-39) and High (EE≥25, D≥10, PA<34) proposed by Gil Monte and Peiró [8] . The variable " suffering from BS" was considered as the presence of high scores of EE and D with low PA. And the rest of the combinations of the three dimensions were considered as not suffering from BS.

For the stratification of the BS risk, the recommendations of Frutos were followed, which includes seven strata[9]: 1) No risk: presence of low scores in EE and D with high PA. 2) Low risk: two dimensions with low risk values and one with medium risk. 3) Medium-low risk: two dimensions with medium and one low risk values. 4) Medium risk: one dimension with high risk values, another with medium risk values and another with low risk values; o one dimension with high risk values and the other two dimensions with low risk values; or the three dimensions with medium risk values. 5) Medium-high risk: one dimension in high risk levels and the other two in medium risk levels. 6) High risk: high risk values for burnout in two dimensions and low in the third. 7) Very high risk: high risk values in two of the dimensions and medium risk values in the third.

The study was approved by the Research Ethics Committee of the Principality of Asturias and previous communications were maintained with each Department head to report on the study. Each participant was informed individually in the initial part of the survey, defining participation as voluntary and anonymous, guaranteeing maximum confidentiality in the data collection and analysis process. The completion of this questionnaire implied the acceptance of professionals to participate in the study. For confidentiality reasons, the names of the hospitals are omitted and they are referred to with a numerical code not corresponding to the health area number.

For data analysis, the statistical software package IBM SPSS Statistics, version 24.0 was used. The Shapiro Wilk test was applied to check the normal distribution of the three dimensions of the MBI questionnaire. None of the three dimensions followed a normal distribution: ($p = 0.978$ for EE; $p = 0.953$ for D; $p = 0.971$ for PA). For the comparison of means, Man n -Whitney tests were used, in the case of two samples, and the Kruskal-Wallis tests for more than two samples. In all cases, the existence of differences was assumed when the significance was less than 5% ($p <0.05$).

Results

The Principality of Asturias is one of the autonomous communities that make up the Spanish State, located in the north of the country and with a population of 1,028,244 inhabitants. Its health service has 8 health areas and each of them has a public reference hospital with emergency services in which a total of 195 doctors work.

137 (70.2%) of the 195 emergency department physicians agreed to participate in the study (response rate 70.26%.). Table 1 shows the description of the population according to the sociodemographic, labor, health and perceived stress variables and age groups. The mean age of the participants was 45.6 years (SD=9.17, range 29 to 68 years). 86 (62.8%) were women; 93 (67.9%) were married or in a stable relationship and

86 (62.8%) had children. 58 (42.3%) were doctors with a permanent position and 79 (57.7%) were interim or eventual. The average number of years of professional practice, excluding the specialized training period, was 15.93 (SD=9.79) and the average number of years worked in an Emergency Department was 11.62 (SD=9.88). 119 (86.9%) of the physicians considered work as an emergency physician as vocational and 86 (62.8%) did not want to change their working hours. 123 (89.9%) were satisfied with the work they do and 110 (80.3%) with their overall professional experience. A total of 103 physicians (75.2%) were satisfied with their co-workers and 91 (66.4%), with the management of the Emergency Department. However, 106 (77.4%) were not satisfied with the management of the hospital. 19 physicians (13.9%) defined their own health status state as negative; 100 (73%) considered that daily work causes them stress, and 80 (58.4%), that work stress has some kind of influence on their health status. 70 doctors (51.1%) did not receive any offer from their hospital to carry out training activities, and 113 doctors (82.5%) had carried out some training activity in the last year.

Table 1. Description of the population according to the sociodemographic, labor, health and perceived stress variables and age groups.

		Total	30-44 years	45-54 years	55 or more years	
No.		137 (100%)	61 (44.5%)	50 (36.5%)	26 (19%)	
Hospital						
	Hospital VII	6 (4.4%)	0	1 (2%)	5 (19.2%)	
	Hospital VII	8 (5.8%)	2 (3.3%)	5 (10%)	1 (3.8%)	
	VI Hospital	26 (19%)	11 (18%)	10 (20%)	5 (19.2%)	
	Hospital V	27 (19.7%)	13 (21.3%)	9 (18%)	5 (19.2%)	
	IV Hospital	29 (21.2%)	10 (16.4%)	12 (24%)	7 (26.9%)	
	Hospital III	14 (10.2%)	7 (11.5%)	6 (12%)	1 (3.8%)	
	Hospital II	15 (10.9%)	10 (16.4%)	3 (6%)	2 (7.7%)	
	Hospital I	12 (8.8%)	8 (13.1%)	4 (8%)	0	
Age (mean ± SD)		45.65 ± 9,175	37.25 ± 4.965	49 ± 2,763	58.85 ± 2,824	
Sex						
	Woman	86 (62.8%)	47 (77%)	24 (48%)	15 (57.7%)	
	Man	51 (37.2%)	14 (23%)	26 (52%)	11 (42.3%)	
Civil status						
	Single	33 (24.1%)	21 (34.4%)	10 (20%)	2 (7.7%)	
	Married or with a stable partner	93 (67.9%)	37 (60.7%)	37 (74%)	19 (73.1%)	
	Separated-Divorced	11 (85)	3 (4.9%)	3 (6%)	5 (19.2%)	
	Widower	0	0	0	0	
No. of children						
	Childless	51 (37.2%)	31 (50.8%)	18 (36%)	2 (7.7%)	
	With children	86 (62.8%)	30 (49.2%)	32 (64%)	24 (92.3%)	
Working condition						
	Permanent	58 (42.3%)	13 (21.3%)	28 (56%)	17 (65.4%)	
	Interim / casual	79 (57.7%)	48 (78.7%)	22 (44%)	9 (34.6%)	
Years of professional practice (mean ± SD)		15.93 ± 9.790	7.49 ± 5.334	19.02 ± 4.749	29.81 ± 3,970	
Years in current Service (mean ± SD)		11.62 ± 9.877	5.02 ± 4.533	12.48 ± 7.083	25.46 ± 8.714	
Change of working hours						
	Yes	51 (37.2%)	23 (37.7%)	21 (42%)	7 (26.9%)	
	Not	86 (62.8%)	38 (62.3%)	29 (58%)	19 (73.1%)	
Training offer from the Center / Service						
	Yes	67 (48.9%)	35 (57.4%)	20 (40%)	12 (46.2%)	
	Not	70 (51.1%)	26 (42.6%)	30 (60%)	14 (53.8%)	
Completion of training activities in the last year						

	Yes	113 (82.5%)	56 (91.8%)	39 (78%)	18 (69.2%)
	Not	24 (17.5%)	5 (8.2%)	11 (22%)	8 (39.8%)
Vocation as an emergency physician					
	Yes	119 (86.9%)	56 (91.8%)	40 (80%)	23 (88.5%)
	Not	18 (13.1%)	5 (8.2%)	10 (20%)	3 (11.5%)
Satisfaction with the work they do					
	Yes	123 (89.9%)	55 (90.2%)	44 (88%)	24 (92.3%)
	Not	14 (10.2%)	6 (9.8%)	6 (12%)	2 (7.7%)
Sat isfacción with the direction of the Hospital					
	Yes	31 (22.6%)	16 (26.2%)	10 (20%)	5 (19.2%)
	Not	106 (77.4%)	45 (73.8%)	40 (80%)	21 (80.8%)
Sat isfacción with the direction of the Chief of Emergency					
	Yes	91 (66.4%)	40 (65.6%)	31 (62%)	20 (76.9%)
	Not	46 (33.6%)	21 (34.4%)	19 (38%)	6 (23.1%)
Satisfaction with colleagues					
	Yes	103 (75.2%)	50 (82%)	35 (70%)	18 (69.2%)
	Not	34 (24.8%)	11 (18%)	15 (30%)	8 (30.8%)
Satisfaction with global professional experience					
	Yes	110 (80.3%)	49 (80.3%)	39 (78%)	22 (84.6%)
	Not	27 (19.7%)	12 (19.7%)	11 (22%)	4 (15.4%)
Defining one's health status					
	Positive assessment	118 (86.1%)	55 (90.2%)	43 (86%)	20 (76.9%)
	Negative valuation	19 (13.95)	6 (9.8%)	7 (14%)	6 (23.1%)
Sick leave in the last year					
	Yes	20 (14.6%)	7 (11.5%)	9 (18%)	4 (15.4%)
	Not	117 (85.4%)	54 (88.5%)	41 (82%)	22 (84.6%)
Does daily work cause you stress?					
	Yes	100 (73%)	43 (70.5%)	37 (74%)	20 (76.9%)
	Not	37 (27%)	18 (29.5%)	13 (26%)	6 (23.1%)
Influence of work stress on your health status					
	YES	80 (58.4%)	34 (55.7%)	31 (62%)	15 (57.7%)
	Not	57 (41.6%)	27 (44.3%)	19 (38%)	11 (42.3%)

DE: Standard deviation.

The data in parentheses indicate percentages.

20 (14.6%) physicians had been on sick leave in the last year and with a mean number of days off work of 49.40 (SD=66.03, range from 1 to 210). The total days of work lost due to sick leave were 998, an average of 7.28 days per doctor. The main causes of sick leave were stress, anxiety and depression (27.63%; 273 days), musculoskeletal problems (27.33%; 270 days), cardiovascular problems (23.28%; 230 days) and accidents (9.11%; 90 days).

Based on the established criteria, 25 physicians (18.2%) had BS. In the EE dimension, 47.45% had a low level, 26.28% medium, and 26.28% high. In dimension D, 16.79% had low levels, 30.6% medium, and 52.55% high. In the PA dimension, 1.46% showed high levels, that is, a low level of burnout. 21.9% had a medium level of PA and burnout, while 105 (76.64%) had low levels of PA related to a high level of burnout.

Table 2 shows the risk of burnout in the participants. 20.4% presented very high risk, 11% high risk and 7.3% medium-high risk. 31.4% were in a medium risk situation, 7.3% in medium-low risk and 4.4% in low risk. Considering the general prevalence of burnout and the frequency of

dimensions with high values, 70.1% of the physicians had a high risk of suffering burnout and 11.7% had no risk.

	Risk	AE	D	RP	%	Frequency
- BURNOUT +	Burnout	TALL	HIGH	LOW	18.2	25
	Very high	TALL	HIGH	HALF	2.9	4
		TALL	HALF	LOW	2.2	3
		MEDIUM	HIGH	LOW	15.3	twenty-one
	Tall	TALL	HIGH	HIGH	-	-
		TALL	LOW	LOW	2.2	3
		LOW	HIGH	LOW	8.8	12
	Medium-high	TALL	HALF	HALF	0.7	one
		MEDIUM	HIGH	HALF	-	-
		MEDIUM	HALF	LOW	6.6	9
	Medium	TALL	HALF	HIGH	-	-
		MEDIUM	HIGH	HIGH	-	-
		MEDIUM	LOW	LOW	2.2	3
		TALL	LOW	HALF	-	-
		LOW	HALF	LOW A	14.6	twenty
		LOW	HIGH	HALF	5.8	8
		TALL	LOW	HIGH	-	-
		LOW	HIGH	HIGH	1.5	two
		LOW	LOW	LOW	6.6	9
		MEDIUM	HALF	HALF	0.7	one
	Medium-low	MEDIUM	HALF	HIGH	-	-
		MEDIUM	LOW	HALF	1.5	two
		LOW	HALF	HALF	5.8	8
	Low	MEDIUM	LOW	HIGH	-	-
		LOW	HALF	HIGH	-	-
		LOW	LOW	HALF	4.4	6
	Risk free	LOW	LOW	HIGH	-	-
					100	**137**

EE: emotional exhaustion; D: depersonalization; PA: personal achivement

Table 2. Distribution of the scores and the dimensions of BS and stratification of risk

Tables 3.1 and 3.2 shows the different variables related to the existence of BS and Tables 4.1 and 4.2 related the different variables to the three dimensions of BS. Regarding the variables studied and their association with the BS, the average value of the BS was higher, in order from highest to lowest value of significance, in doctors with changes in their work schedules (p=0.000), in those who stated that they felt dissatisfied with the work performed (p=0.001), in which they valued the performance of the head of the emergency department as unsatisfactory (p=0.002), in which they stated that work stress affected their health (p=0.004), in those who had not participated in any training activity during the last year (p=0.007) and in those who worked in centers that did not offer training (0.021). The difference in the value of the SB in relation to the satisfaction with the partners was at the limit of statistical significance (p=0.05). On the contrary, there were no significant differences in the mean value of the SB based on age, sex, number of children, employment status, vocation as an emergency physician, satisfaction with the management of the hospital, satisfaction with the overall professional experience, perception of health status, existence of sick leave in the last year or perception of daily work as stressful.

Table 3.1. Relationship between the definition of burnout and the study variables

	Burnout				
	n	Average range	Chi squared	gl	Significance (p)
Hospital					
Hospital VII	6	67.92	3,846	7	0.797
Hospital VII	8	73.63			
Hospital VI	26	74.94			
Hospital V	27	69.19			
Hospital IV	29	70.67			
Hospital III	14	61.39			
Hospital II	15	65.63			
Hospital I	12	62.21			
Age					
29 -44 years	61	69.98	4,772	two	0.092
45-54 years	50	72.94			
55 or more years	26	59.13			
Civil status					
Single	33	71.03	3,227	two	0.199
Married or with a stable partner	93	66.81			
Separated-Divorced	11	81.41			
Widower	0	0			
Years of professional practice					
1 -14 years	56	72.40	1,823	two	0.402
15-24 years	48	67.92			
25 or more years	33	64.08			
Years in Current Service					
1-10 years	79	68.64	1,067	two	0.587
11-20 years	29	73.03			
21 or more years	29	65.95			

Done test Kruskal -Wallis in the above variables.

Table 3.2. Relationship between the definition of burnout and the study variables.

	Burnout				
	n	Average range	U of Mann-Whitney	Z	Significance (p)
Sex					
Woman	86	69.24	2,172,000	-, 140	0.889
Man	51	68.59			
No. of children					
Childless	51	68.59	2,172,000	-, 140	0.889
With children	86	69.24			
Working condition					
Permanent	58	67.13	2,182,500	-, 707	0.480
Interim / casual	79	70.37			
Change of working hours					
Yes	51	79.33	1,666,000	-3,507	0.000
Not	86	62.87			

	Not	56	82.67			
Training offer from the Center / Service						
	Yes	67	63.66	1987,000	-2,304	0.021
	Not	70	74.11			
Completion of training activities in the last year						
	Yes	113	66.20	1039,500	-2,679	0.007
	Not	24	82.19			
Vocation as an emergency doctor						
	Yes	119	69.16	1051,500	-, 186	0.853
	Not	18	67.92			
Satisfaction with the work they do						
	Yes	123	66.52	556,500	-3,234	0.001
	Not	14	90.75			
Satisfaction with the management of the Hospital						
	Yes	31	63.13	1461,000	-1,399	0.162
	Not	106	70.72			
Satisfaction with the Chief of Emergencies						
	Yes	91	64.03	1640,500	-3,083	0.002
	Not	46	78.84			
Satisfaction with colleagues						
	Yes	103	66.48	1,491,000	-1,937	0.053 *
	Not	3. 4	76.65			
Satisfaction with global professional experience						
	Yes	110	67.09	1274,500	-1,703	0.089
	Not	27	76.80			
Defining one's health status						
	Positive assessment	118	68.11	1016,000	-, 977	0.328
	Negative valuation	19	74.53			
Sick leave in the last year						
	Yes	twenty	70.20	1146,000	-, 219	0.827
	Not	117	68.79			
Does daily work cause you stress?						
	Yes	100	71.57	1,593,000	-1,862	0.063
	Not	37	62.05			
Influence of work stress on your health status						
	YES	80	74.48	1841,500	-2,862	0.004
	Not	57	61.31			

Mann-Whitney test performed on the above variables.

Table 4.1. Relationship between burnout dimensions and study variables.

	Burnout dimensions											
		Emotional Exhaustion (EE)				Depersonalization (D)				Personal Achivement (PA)		
	n	Average range	Chi squared	gl	Significance (p)	Average range	Chi squared	gl	Significance (p)	Average range	Chi squared	gl	Significance (p)
Hospital			8,368	7	0.301		11,399	7	0.122				
Hosp VIII	6	66.33				67.75				56.17			
Hosp VII	8	78.25				65.44				57.56			
Hospital VI	26	75.67				83.58				67.56			
Hospital V	27	69.39				68.44				63.30	8,600	7	0.283
Hospital IV	29	64.67				68.69				61.21			
Hospital III	14	44.75				40.07				87.71			
Hospital II	15	81.67				69.47				81.03			
Hospital I	12	71.75				75.58				80.96			
Age													
29 -44 years	61	70.24				74.22				68.76			
45-54 years	50	71.26	1,091	two	0.580	67.35	2,512	two	0.285	71.76	0.618	two	0.734
55 or more years	26	61.75				59.92				64.25			
Civil status													
Single	33	69.52				70.38				68.56			
Married or with a stable partner	93	69.30	0.125	two	0.939	68.19	0.131	two	0.937	69.84	0.283	two	0.868
Separated-Divorced	eleven	64.95				71.73				63.18			
Widower	0	0				0				0			
Years of professional practice													
1 -14 years	56	71.21				74.96				67.05			
15-24 years	48	69.83	0.709	two	0.701	68.57	3,163	two	0.206	73.60	1,024	two	0.599
25 or more years	33	64.05				59.52				65.61			
Years in Current Service													
1-10 years	79	69.16				69.39				70.96			
11-20 years	29	73.47	0.811	two	0.667	71.47	0.351	two	0.839	75.52	3,564	two	0.168
21 or more years	29	64.10				65.47				57.16			

Done test Kruskal -Wallis in the above variables.

Table 4.2. Relationship between burnout dimensions and study variables

	Burnout dimensions												
		Emotional Exhaustion (AE)				Depersonalization (D)				Personal Realization (RP)			
	n	Average range	U of Mann-Whitney	Z	Significance (p)	Average range	U of Mann-Whitney	Z	Significance (p)	Average range	U of Mann-Whitney	Z	Significance (p)
Sex													
Woman	86	70.01	2106.500	- .385	0.700	68.49	2.149.500	- .194	0.846	68.74	2.171.000	- .098	0.922

	Man	51	67.30				69.85			69.43			
No. of children													
	Childless	51	68.54	2,169,500	-, 105	0.917	67.14	2,098,000	-, 424	0.672	71.84	2,048,000	-, 646	0.518
	With children	86	69.27				70.10				67.31			
Working condition														
	Permanent	58	74.61	1965,500	-1,419	0.156	67.45	2201,000	-, 393	0.694	62.34	1904,500	-1,686	0.092
	Interim / casual	79	64.88				70.14				73.89			
Change of working hours														
	Yes	51	90.06	1,119,000	-4,786	0.000	79.11	1,677,500	-2,300	0.021	61.18	1,794,000	-1,779	0.075
	Not	86	56.51				63.01				73.64			
Training offer from the Center / Service														
	Yes	67	63.04	1946,000	-, 1719	0.086	66.42	2,172,000	-, 746	0.455	76.60	1836,000	-2,194	0.028
	Not	70	74.70				71.47				61.73			
Completion of training activities in the last year														
	Yes	113	67.88	1,229,500	-, 717	0.473	67.54	1190,500	-, 939	0.348	71.44	1080,500	-1,562	0.118
	Not	24	74.27				75.90				57.52			
Vocation as an emergency doctor														
	Yes	119	68.90	1059,000	-, 077	0.939	70.62	875,500	-1,229	0.219	71.55	767,500	-1,936	0.053 *
	Not	18	69.67				58.31				52.14			
Satisfaction with the work they do														
	Yes	123	64.76	339,500	-3,709	0.000	67.65	695,500	-1,178	0.239	73.78	273,000	-4,183	0.000
	Not	14	106.25				80.82				27.00			
Satisfaction with the management of the Hospital														
	Yes	31	59.42	1,346,000	-1,529	0.126	55.11	1212,500	-2,219	0.026	64.78	1196,000	-2,302	0.021
	Not	106	71.80				73.06				83.42			
Satisfaction with the Chief of Emergencies														
	Yes	91	64.13	1,649,500	-2,023	0.043	65.27	1,753,500	-1,551	0.121	74.17	1,622,500	-2,147	0.032
	Not	46	78.64				76.38				58.77			
Satisfaction with colleagues														
	Yes	103	63.99	1234,500	-2,576	0.010	67.15	1560,500	-, 951	0.342	73.37	1300,500	-2,247	0.025
	Not	3. 4	84.19				74.60				55.75			
Satisfaction with global professional experience														
	Yes	110	64.92	1036,500	-2,429	0.015	65.50	1,100,000	-2,087	0.037	74.91	835,000	-3,521	0.000
	Not	27	85.61				83.26				44.93			
Defining one's health status														
	Positive assessment	118	65.16				68.66				70.69			

				667,500	2,827	0.005		1080,500	-, 253	0.800		922,000	1,241	0.215
	Negative valuation	19	92.87				71.13				58.53			
Sick leave in the last year														
	Yes	twenty	67.68	1143,500	-, 162	0.872	62.13	1032,500	-, 840	0.401	67.48	1139,500	-, 186	0.852
	Not	117	69.23				70.18				69.26			
Does daily work cause you stress?														
	Yes	100	81.06	644,500	-5,849	0.000	75.98	1152,500	-3,388	0.001	63.54	1303,500	-2,652	0.008
	Not	37	36.42				50.15				83.77			
Influence of work stress on your health status														
	YES	80	85.06	995,000	-5,616	0.000	78.04	1,557,000	-3,164	0.002	62.24	1,739,500	-2,363	0.018
	Not	57	46.46				56.32				78.48			

Mann-Whitney test performed on the above variables.

Discussion

The main objective of this study was to analyze the prevalence of BS in doctors working in the Emergency Department of the eight Asturian hospitals in the public network. The results have shown statistically significant differences regarding the presence of BS in some of its three dimensions in doctors. Other authors have found a mayor prevalence of BS scales AE and PA [10] .

There are authors indicating no association between prevalence of BS and the type of hospital service in wich the doctor works (Neurology, Pneumology and Cardiology) [11] , However, other studies[12] [13] [14] found an statistically significant association between working in a particular service and suffer BS, but influenced by the professional category. These discrepancies can be due to various reasons such as the use of different inclusion criteria or sample size of the study, which means that the results are not comparable.

On the other hand, it is important to note that BS can lead to other psychiatric disorders. Motta de Vasconcelos showed the relationship between BS and depression is statistically significant, making necessary to implement measures that contribute to reducing the prevalence of this syndrome [15] . Several authors have proposed preventive measure as the development of communication skills, the improvement of working conditions [16] [17] , the development of self-efficacy training programs to improve personal resources, the opportunity to participat in the design of work programs, [18] and to adopt organizational strategies to reduce both the incidence and prevalence of BS[19] . One of these strategies would be to decrease the doctor-patient ratio reducing the workload of physicians. According to the results of these investigations, it seems necessary to pay special attention to emergency professionals with higher scores on the burnout scales to avoid the appearance of this type of pathology.

This study has some limitations to consider. One of the risk factors of BS is turnicity and 40% of participants did not answer the question regarding the hospital complex shifts system. Due to turnicity, it is probable that some doctors have not received the questionnaire to fill out.

According to the results obtained in this study, is necessary to focus actions aimed at preventing BS in aspects such as adequate work schedules, management, leadership and continuous training. Special attention has to be paid to emergency doctors with the highest score on the burnout scales, implementing work measures that contribute to reducing the prevalence of this syndrome.

Physicians who work in the emergency services of our public hospitals show a prevalence and a risk of suffering BS related to specific aspects of their professional practice that are identifiable (work hours, continuous training, leadership of the department heads, participation in decision making, etc.). Many of these risk factors are preventable through proper organizational strategies. For this reason, the health authorities and those in charge of hospitals should implement general measures aimed at reducing burnout among the doctors on their staff and, particularly, among those doctors in the emergency services who obtain a higher score on the burnout scales, in order to avoid the impact that this problem has on the

safety and quality of healthcare in emergency services.

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