

# Burnout Syndrome Among Health Workers At A Brazilian Public Hospital Run By A Social Health Organization

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**Abstract**—When stress is a chronic problem associated with work, it is referred to as Burnout syndrome (BS). The aim of this study was to identify the prevalence of BS among health professionals at a Brazilian public hospital run by a social health organization.

This is a qualitative descriptive study describing the experiences of workers at a public hospital located in Cubatão, SP, Brazil. A hundred thirty-eight professionals agreed to participate in the study. The cohort included 27 physicians, 46 nurses and 65 nursing technicians. The study was done using a two-part questionnaire. The first part included questions designed to investigate socio-demographic data. The second part included the Maslach Burnout Inventory (MBI).

The demographic data collected are as follows: the average age of participants was 34,6 years ( $\pm 5.4$ ), the prevalence of women was 68% and the marital status most reported was a stable union (38.5%). All participants had completed at least a technical education. Most participants were nursing technicians (51.2%), and the average hiring time by the institution was 5.5 years ( $\pm 2.1$ ). 76% were employed by the organization and 24% had outsourcing contract. According to the criteria of MBI-HSS, fifteen respondents (10.8%) had BS. For nurses, there was a positive association between low professional accomplishment (PA) and women (OR = 2.6; IC 95% [0.9; 7.3];  $p=0.05$ ), and between married and emotional exhaustion (OR = 1.6; IC 95% [0.3; 2.3];  $p=0.04$ ). For nursing technicians, a positive association between depersonalization (DE) and age 31-35 years (OR = 1.8; 95% CI [0.5; 5.9];  $p = 0.05$ ), and between DE the period of time in the job 4 – 7 years (OR = 7.9; 95% CI [0.9; 71.1];  $p = 0.03$ ). As for the physicians, the positive association was between period of time in the job 4 – 7 years and low PA (OR = 1.7; 95% CI [0.6; 5.1];  $p = 0.04$ ). Our results showed a moderate frequency of emotional exhaustion and low professional accomplishment in a Brazilian public hospital. Exhaustion and lack of professional interest may be related to inadequate human resources policies.

**Index Terms**— Burnout, epidemiology, health personnel, occupational health, public-private relations in the health sector.

## I. INTRODUCTION

Among the different factors that might compromise a worker's health, the work environment results in conflicts when individuals perceive a gap between their commitment to their profession and the system in which they work [1]. Stress is omnipresent in both peoples' lives and their work environments. Each individual assesses a stressful situation

as either positive or negative, according to the value given to it and the resources available to address it [2].

Depending on the intensity and duration of stress, an individual may suffer serious physical and psychological consequences if he or she cannot restore normalcy, or develop adaptive mechanisms to restore the balance lost. When stress becomes a chronic problem associated with work, the individual experiences burnout syndrome (BS) [3]. The syndrome arises when other strategies fail to address stress [3], [4]. This syndrome occurs when an individual does not possess the resources to face work situations and conflicts [5]. BS is not only evidenced by stress or emotional fatigue, but also accompanied by a sense of incompetence. At times, the workplace does not acknowledge the human side of work. Incompatibility between the type of work and the people performing it leads to a high risk of burnout [6].

BS involves three dimensions: emotional exhaustion (EE), depersonalization (DP), and a low sense of professional accomplishment (PA) [5]. EE is characterized by a lack of energy and enthusiasm and a depletion of emotional and physical resources. It is the realization that there is no energy left to carry out work activities, and daily life at work becomes arduous and painful. DE is revealed by an attitude of emotional detachment from people to whom the professional must care for and for coworkers. Interactions become impersonal, devoid of affection, and inhuman. Sometimes, the individual begins to exhibit harsh, cynical or ironic behaviors. This dimension is considered the defensive element of BS. Low PA is a behavioral phenomenon manifested as the tendency of the worker to show dissatisfaction with his or her own performance at work [2], [6], [7].

Working in health facilities can take a toll on physical, cognitive and emotional stability. Overwork, competitiveness, conflict with colleagues, lack of organization and patient death are all variables that enhance the risk of BS [8], [9]. Also, BS may be a response to chronic fatigue and psychological stress caused by the degradation and deterioration of the relationship between the medical/healthcare professional, the patient, colleagues, family and the social environment [10]. It is closely related to absenteeism, abandonment of work, poor patient care, and an increased incidence of medical errors [11], [12]. However, studies are beginning to show that the strategic management of people at work can overcome indifference; raise efficiency, engagement and commitment to the job; and combat stress [13-15].

New management techniques have been adopted in public

health services in Brazil, including an alternative model of administration, delegating the governance of health facilities to a Health Social Organization (HSO) through a management contract [16], [17].

The aim of this article is to evaluate the prevalence of burnout syndrome and its three dimensions - emotional exhaustion, dehumanization, and personal accomplishment - among health workers in a Brazilian public hospital run by HSO.

**II. METHODS**

This descriptive study with a cross-sectional design and quantitative approach was performed among health workers at a public hospital in Cubatão/SP, Brazil.

On the year 2003, the hospital was turned over to an HSO for management. Five years later, it was considered "the best regional public hospital" in a report issued by a regional research institute [18]. By the standards of the national public health system, the hospital was characterized as general medical facility, and became a regional reference for trauma emergency.

Two hundred professional, selected by sectors managers, were invited to participate in the study. The researcher did not involve in the selection. Employees who had not entirely completed the questionnaire or who had been employed for less than six months were excluded. The final sample included 138 professionals: 27 physicians, 46 nurses and 65 nursing technicians. Data collection was conducted between January and September of 2013. The surveys were individually completed without the presence of the researcher.

Data collection was accomplished with a self-completed questionnaire consisting of two parts. The first part collected demographic data. The second part consisted of the Maslach Burnout Inventory, which was suitable for health care/caregivers or human/social services (MBI-HSS). A universal reference to assess institutional BS is the MBI-HSS is recognized worldwide, and was translated into Portuguese, adapted and validated by Lautert (1997) [19], Tamayo (1997) [20] and others. The MBI evaluates the three dimensions of BS. It is a seven-point Likert scale with 22 issues: nine issues for emotional exhaustion (EE), five for depersonalization (DE) and eight for reduced personal accomplishment (PA), the latter with a reverse score.

The MBI questionnaire can indicate whether a person tends to present BS or whether he or she already has BS. For manifested BS, the three dimensions must be present, in others words, individuals manifesting BS exhibit high ratings for EE and DE and a low rating for PA. The dimensions must be separately scored because the contribution of each dimension of the syndrome is unknown. When all dimensions are negative, burnout risk is reduced. Risk increases as the domains become positive [2].

For data analysis, Statistical Package of the Social Sciences (SPSS) software, version 10.01, was used. In addition to basic techniques of exploratory analysis as mean, standard deviation and frequency, differences in proportions were tested by Pearson's test (chi-square). To study the factors related to the three aspects of the MBI-HSS (EE, DE, and

PA), calculations were separately done for each category. Odds ratios (OR) were calculated with respective ranges of 95% confidence interval (CI - 95%). The Wald's test was applied to obtain estimates association of socio-demographic variables with burnout dimensions. The significance level ( $\alpha$ ) was set at 5%, being considered significant values of  $p < 0.05$  and confidence interval.

The study was approved by the hospital's technical department and by an ethics committee at a regional hospital (the institution under study did not have a research committee). Department chiefs and participants were informed of the voluntary, anonymous, and confidential nature of the study, and it was assured that the data collected would not be used for individual or institutional evaluation purposes.

**III. RESULTS**

Demographic data collected in the returned questionnaires can be reported as follows: the average age was 34.6 years ( $\pm 5.4$ ), the prevalence of women was 67,4%, and the marital status most reported was stable/married (38.5%). All participants had completed at least a technical education. Most participants were nursing technicians (51.3%), with the income of 4 times the minimum range. The average working time at the institution was 5.5 years ( $\pm 2.1$ ). Of all respondents, 76% were employed by the HSO, while the others were funded by an outsourcing contract (Table 1).

Distribution of the dimensions and its respective percentages were showed in Table 2. Physicians had the highest percentage depersonalization. Nursing technicians had the highest percentage to emotional exhaustion (EE) and low personal accomplishment (PA), although the percentage presented by nurses was also high.

**Table 1** – Distribution and the respective percentages of sociodemographic characteristics of health professional's sample – Cubatão, Brazil, 2013.

Variable	Categories	N	%
Gender	Male	45	32,6
	Female	93	67,4
Age	< 30	41	29,7
	31-35	40	29
	36-40	30	21,7
	> 40	27	19,6
Marital Status	Single	33	23
	Marriage/ Stable union	45	38,5
	Separate	37	28,2
	Divorced	23	10,2
Profession	Nurse	46	33,3
	Physician	27	19,5
	Nursing technician	65	47,1
Working time at hospital	<4	33	24
	4-7	62	45
	> 7	43	31



0.03). As for the physicians, the positive association between

**Table 3** – Distribution of the three MBI-HSS dimensions and the respective percentages for each professional category – Cubatão, Brazil, 2013.

Professionals	Nº	One dimension positive (%)	Nº	Two dimensions positive (%)	Nº	Three dimensions positive (Burnout) (%)
Nurses	21	45,6	10	21,7	5	10
Physicians	9	33,3	7	26	3	11,1
Nursing technicians	27	41,5	16	24,6	7	10,7
Total	57		33		15	
Live where work	Yes No	51 87	37 63	working time of 4 to 7 years and reduced PA (OR = 1.7; IC 95% [0.6; 5.1]; p = 0.04).		

**Table 2** – Distribution of the three MBI-HSS dimensions and the respective percentages for each professional category – Cubatão, Brazil, 2013.

Dimensions		Profession		
		Nurses %	Physicians %	Technicians %
Emotional exhaustion	Positive	43,5	41	46
	Negative	56,5	59	54
Depersonalization	Positive	32	37	30
	Negative	68	63	70
Low personal accomplishment	Positive	43,5	41	46
	Negative	56,5	59	4

The association between the dimensions of burnout is presented in Table 3. According to the criteria of MBI-HSS, fifteen respondents (10.8%) technicians presented Burnout syndrome (positive in the three dimensions), who were: three physicians, five nurses and seven nursing technicians. The current use of medication, such as sedatives, tranquilizers or antidepressant, was reported by 12% of respondents. Psychiatric monitoring was reported by one respondent.

Table 4 shows the correlation between socio-demographic variables and MBI-HSS dimensions for each professional category. In the case of nurses was observed a positive association between female and low PA (OR = 2.6; IC 95% [0.9; 7.3]; p = 0.05). The nurses also had association between married and EE (OR = 1.6; IC 95% [0.3; 2.3]; p = 0.04). For nursing technicians, a positive association between DE and two variables: the age of 31 to 35 years-old (OR = 1.8; IC 95% [0.5; 5.9]; p = 0.05) and the working time in the institution - 4 to 7 years (OR = 7.9; IC 95% [0.9; 71.1]; p =

#### IV. DISCUSSION

According to the criteria adopted for the analysis of the three dimensions covered by the MBI-HSS in this study, there were found high levels of emotional exhaustion and low professional accomplishment (above 40%). The percentage of depersonalization was over 30%, more present in physicians. The prevalence of Burnout syndrome (BS) was 10.8%. The world literature shows higher levels of BS in health facilities (33.8%) [21], [22].

In Brazil, the present study can be compared with others BS investigations. In 2015, a children's cancer hospital study brought lower prevalence of BS than found here. Their results were: Nursing technicians = 5.3%; Nurses = 3.5%; Physicians = 5.6% [21]. In other survey, Brazilian anesthesiologists had BS prevalence of 10,5% (almost the same here) [23]. With Brazilian oncologists in 2007, the prevalence of BS was lower (7.8%) [24]. On the other hand, in nursing workers assessed by Tamayo, the prevalence was higher (16.2%) [20]. Da Silva (2008) found a prevalence of 24.1% in health agents [22].

In the career analysis, nursing technicians were the employees who had the highest percentage emotional exhaustion (EE) and low professional accomplishment (PA) scores. Compared to medical and nurses' staff, nursing technicians also presented the largest percentage of burnout. It is likely that the daily routine involved in working in the same unit leads to fatigue. In contrast, medical category had highest percentage of depersonalization (DE). One probable cause of this found factor may be the type of binding with the institution, with outsourcing contracts. Many doctors do not work in the hospital daily. The type outsourcing contract leads to assume a precarious link with the institution. Several times, the professional feels disposable. He or she can be replaced anytime.

After observation of biosocial variables correlated with domains of MBI-HSS, it was possible to find some

peculiarities of each profession, as follow: nurses had positive association between female and low PA, and marriage and EE; nursing technicians was positive for DE and age of 31 to 35 years-old, and period of time in the job between 4 to 7 years; and, at last, physicians had positive association between period of time in the job between 4 to 7 years and low

of recognition of their work at the institution. The workers knew that their investment in work went unrecognized by their colleagues and superiors and were discouraged to move their ideas for improving the public health service forward [26], [27].

Burnout syndrome is a process that stems from the interaction between the work environment and personal

**Table 4** - Correlations between biosocial variables and domains of the MBI-HSS for each professional category studied – Cubatão, Brazil 2013. N = 138

Variable	Categories	Emotional Exhaustion			Depersonalization			Low professional accomplishment		
		OR	(IC 95%)	p	OR	(IC 95%)	p	OR	(IC 95%)	p
<b>Nurses</b>										
Gender	M		1		1		1			
	F	0.9	(0.3; 2.3)	0.40	0.8	(0.3; 2.1)	0.60	1,6	(0.3; 2.3)	0.04*
Marriage status	S		1		1		1			
	M	2.6	(0.9; 7.3)	0.05*	2.3	(0.8; 7.0)	0.06	2.6	(0.9; 7.3)	0.07
	D	1.2	(0.4; 4.1)	0.63	0.9	(0.2; 3.5)	0.36	1.2	(0.4; 4.1)	0.63
<b>Nursing technicians</b>										
Age (years)	>40		1		1		1			
	≤30	1.6	(0.4; 6.6)	0.67	4.6	(0.5; 42.1)	0.75	1.6	(0.4; 6.6)	0.67
	31 – 35	3.3	(0.8; 14.3)	0.13	7.9	(0.9; 71.1)	0.03*	3.3	(0.8; 14.3)	0.13
	36 – 40	2.3	(0.5; 11.0)	0.64	7.3	(0.7; 72.6)	0.22	2.3	(0.5; 11.0)	0.64
Period of time in the job (years)	>7		1		1		1			
	> 4	1.5	(0.4; 5.2)	0.56	2.2	(0.5; 8.6)	0.39	1.5	(0.4; 5.2)	0.56
	4 – 7	1.2	(0.4; 3.4)	0.96	1.8	(0.5; 5.9)	0.05*	1.2	(0.4; 3.4)	0.96
<b>Physicians</b>										
Period of time in the job (years)	>7		1		1		1			
	> 4	1.4	(0.5; 4.1)	0.93	1.1	(0.3; 3.5)	0.88	1.4	(0.5; 4.1)	0.93
	4 – 7	1.7	(0.6; 5.1)	0.49	1.4	(0.4; 4.3)	0.62	1.7	(0.6; 5.1)	0.04*

OR = Odds Ratio.

CI = confidence interval.

\* Wald’s test: p < 0,05.

PA. These finds can be explained by the profile of the institution investigated, where professionals take on a greater workload after they were hired, and it tends to increase. Hospital’s managers should be aware of these findings and should be capable to change inadequate work’s patterns.

The care activities could place high emotional demands on the employee. Even though, helping other people has always been recognized as a noble goal, only recently some attention has been given to the emotional cost of carrying out the work [25]. The relationship between a professional and his or her customers, and the fine distinction between professional and personal involvement are permeated with ambiguity. In the study of health professionals working at a children’s hospital, respondents reported that a great source of stress was the lack

characteristics. The most widely used definition was proposed by Maslach and Jackson in 1981 [9]. Emotional exhaustion is considered a central factor of BS. It is characterized by emotional and sense of lack of energy, showing inverse association with job performance. EE is often related to excessive demands and personal conflicts, predominantly in people with a higher education degree [5], [22]. Depersonalization refers to a loss of motivation, anxiety, irritability and reduced idealism. When someone stays in an organization for many years, the number of demands placed on him or her increases. Working in healthcare is considered to be an emotional activity that demands emotional stability and the ability to express emotions [10], [20]. Low professional achievement is related



to a feeling of incompetence and inadequacy, negative self-assessment, falling productivity and a lack of achievement at work. Another factor that can influence the feeling of reduced professional achievement is a lack of recognition at work.

This study had some limitations that must be mentioned. There were a limited number of workers who answered the questionnaire; however, even with this low number of respondents, there were high rates of worker wear, regardless of whether BS had developed. Because the study was cross-sectional, it was not possible to establish a causal or temporal relationship between exposure and outcome. Concerning the calibration bias, it is possible that some health professionals suffering from stress or depression were feeling well at the moment of the interview and it was not considered. This paper would not discuss BS clinical diagnoses, which must be done by a specialist with the requisite competence and knowledge to observe the patient in the labor context, as well as symptoms, accidents and absenteeism. The MBI serves as a complement to clinical diagnosis and a verification of the impact that the environment has on emotional wear. Further assessments with larger and more representative samples are required to fully understand the conditions faced by workers.

Acknowledging the workers work overload, stress-producing events, as well as assessing their motivation for removal can contribute to a better understanding of the causal factors of BS. Organizational intervention strategies must be based on periodic surveys of job satisfaction to the benefit of the population because the demands on the quality of the services provided grows inevitably.

## V. CONCLUSION

This research, conducted in a public hospital run by a social organization, intended to assess the stress experienced by healthcare professionals that was provoked by the work environment. The social health organization in Brazil tends to operate in a similar manner to the private health sector. It urges the pursuit of quality standard certificates to be recognized. In fact, the organization imposes an additional demand on workers, wherein work life quality is not the highest priority. The employers' necessity for institutional certificates therefore leads to an additional pressure for the employees.

In the three professional categories investigated, there was found 15 workers with the three dimensions of Burnout syndrome, a prevalence of 10% for the total sample.

To create a healthier work environment, human resources managers should strive to develop personnel management strategies to establish preventive actions and interventions to decrease the stress experienced by the workers [17]. This observation indicates that the current working model in that kind of Brazilian public hospital is unsatisfactory. However, wear or exhaustion and the lack of professional interest may be related to an ill begotten human resources policy.

## ACKNOWLEDGMENT

I thank all health professionals who decided to respond to the questionnaire. The hospital direction allowed the research

at the facility. Thanks to Department of Preventive Medicine – School of Medicine and School of Public Health of University of São Paulo for the support in the development of research. Special thanks to Cristiana Araujo Oliveira and Lorene Guirado for valuable suggestions in data collection techniques and database and formatting better statistical analysis.

## LIST OF ABBREVIATIONS

BS: Burnout syndrome; EE: Emotional exhaustion; DE: Depersonalization; PA: Professional accomplishment; MBI-HSS: Maslach Burnout Inventory – Human Service Survey; N = nurses; P = phycisinas; NT = nursing technicians; OD = Odds ratio; CI = confidence interval.

## APPROVAL AND CONSENT FORM

This study was submitted and approved by the technical board of the hospital in 2008, and of the Committee of Ethics in Research of the Regional Hospital of the State Department of Health in 2011, since the hospital does not have a Research Committee. All workers who have agreed to participate in the study signed an informed consent.

## CONFLICT OF INTEREST

The author declares that there was no conflict of interest in the study.

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