

## Burnout syndrome in professionals of the mobile emergency care service (SAMU): cross-sectional study

### *Síndrome de Burnout em profissionais do serviço de atendimento móvel de urgência (SAMU): estudo transversal*

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**ABSTRACT: Introduction:** The professionals who provide direct care to the population represent an important risk group for the development of Burnout syndrome. **Objective:** Track the prevalence and profile of professionals in the mobile emergency care service of the Intermunicipal Health Consortium in the Southeast Region of Minas Gerais who have signs of occupational exhaustion. **Material and Methods:** A questionnaire was used to analyze the professionals' sociodemographic, health and work variables and the translated version of the Maslach Burnout Inventory. To compare proportions between the independent variables and the outcome variables, the Chi-square test was used with correction by the Fischer test. Crude and adjusted Odds Ratio were obtained by logistic regression. **Results:** 44.7% of professionals showed signs of emotional exhaustion. In this context, it should be highlighted that women are 127% more exhausted than men. Greater exhaustion was also more associated on hired employees. 42.5% of professionals reported low professional fulfillment. The public employees show 25% less fulfillment and 57% less depersonalization compared to those hired employees. 38.3% of professionals showed signs of depersonalization, with black professionals being 249% more likely to develop this condition compared to white professionals. **Conclusion:** The prevalence of Burnout syndrome in this study population was 15.6%. Professionals with 1 or 2 children are 653% more likely to develop Burnout Syndrome compared to those who do not have children.

**KEY WORDS:** Occupational health; Burnout psychological; Work conditions; Emergency medical services; Health professionals.

**RESUMO: Introdução:** Os profissionais que prestam atendimento direto à população representam um importante grupo de risco para o desenvolvimento da Síndrome de Burnout. **Objetivo:** Rastrear a prevalência e o perfil dos profissionais atuantes no Serviço de Atendimento Móvel de Urgência do Consórcio Intermunicipal de Saúde da Região Sudeste de Minas Gerais que apresentam sinais de esgotamento ocupacional. **Material e Métodos:** Foram utilizados um questionário para análise das variáveis sociodemográficas/saúde/trabalho destes profissionais e a versão traduzida do Maslach Burnout Inventory. Para comparar proporções entre as variáveis independentes e as variáveis de desfecho foram utilizados o teste Qui-quadrado com correção pelo teste de Fischer. Foram obtidas Odds Ratio brutas e ajustadas por regressão logística. **Resultados:** 44,7% dos profissionais apresentaram sinais de exaustão emocional. Nesse contexto, destaca-se que as mulheres estão 127% mais exaustas do que homens. A maior exaustão também esteve mais associada ao grupo dos contratados. 42,5% dos profissionais relataram baixa realização profissional. Os concursados estão 25% menos realizados e 57% menos despersonalizados em comparação com os contratados. 38,3% dos profissionais demonstraram sinais de despersonalização, sendo que os negros possuem 249% mais chances de desenvolver essa condição em comparação com profissionais brancos. **Conclusão:** A prevalência da síndrome de Burnout na população deste estudo foi de 15,6%. Profissionais com 1 ou 2 filhos possuem 653% mais chances de desenvolver tal condição quando comparados àqueles que não possuem filhos.

**PALAVRAS-CHAVE:** Saúde do trabalhador; Esgotamento psicológico; Condições de trabalho; Serviços médicos de emergência; Profissionais da saúde.

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## INTRODUCTION

Work activities occupy a significant amount of time in the daily lives of many professionals, and can negatively interfere with their health when the limits of the body and mind are not respected<sup>1</sup>. For Sun et al.<sup>2</sup>, occupational stress arises from professional perception that their work environment presents excessive demands or that they do not have sufficient resources to face them.

One of the consequences of chronic exposure to occupational stress is developing Burnout Syndrome (BS), also known as professional burnout syndrome. The diagnosis of BS involves the coexistence of three components which are related and interdependent: a) emotional exhaustion, characterized by a lack of energy; b) depersonalization, characterized by negative behavior when dealing with patients and co-workers; and c) personal achievement, characterized by a negative self-evaluation in the development of work activities<sup>3</sup>.

This is a condition which mainly affects professionals who work close to users of their services, as is the case with health workers, education workers, and social workers, among others<sup>4</sup>. The Mobile Emergency Care Service (in Brazil, *Serviço de Atendimento Móvel de Urgência – SAMU*) consists of the mobile pre-hospital component of the National Emergency Care Policy. It is responsible for providing care to victims at the scene of the incident, aiming to reduce deaths and sequelae resulting from late care.<sup>5</sup> Support is provided by a multidisciplinary team, whose composition depends on the level of complexity of the incident. The basic life support team is made up of an emergency medical services (EMS) driver and nursing technician, responsible for providing care and carrying out pre- and inter-hospital transport of non-life-threatening patients. The advanced life support team is composed of a rescue driver, nurse and doctor, responsible for the care and transport of patients in emergency situations or pre- and inter-hospital transport of those who require intensive care<sup>6</sup>.

*SAMU* was established in Brazil on April 27, 2004, through decree No. 5055<sup>7</sup>. Since then, it was defined that its funding would be divided between the Federal Government, State and municipalities, being organized in the form of 100% public consortia. The Intermunicipal Health Consortium of the Southeast Region of Minas Gerais (*Consórcio Intermunicipal de Saúde da Região Sudeste de Minas Gerais - CISDESTE*) has its headquarters in the city of Juiz de Fora, being responsible for serving 8 micro-regions of the state (Além Paraíba, Carangola, Juiz de Fora, Leopoldina, Muriaé, Santos Dumont, Bicas and Ubá), covering 94 cities with a total population of approximately 1,662,000 inhabitants. This headquarters is responsible for receiving all 192 (equivalent to 9-1-1 in North America) emergency calls from these regions and also for managing all local calls<sup>8</sup>.

In addition to this demand, there is the occurrence of peaks in service, such as that experienced during the Coronavirus Pandemic in 2019, considered an important global public health problem.<sup>9</sup> there was a significant increase in the need for immediate care during this period due to the worsening of disease symptoms, overloading all care levels, especially those related to the hospital sector<sup>10</sup>.

Therefore, the objective of this study is to track the prevalence and profile of professionals working in the Mobile Emergency Care Service (*SAMU*) of the Intermunicipal Health Consortium of the Southeast Region of Minas Gerais (*CISDESTE*) who show signs of occupational exhaustion (Burnout Syndrome).

## MATERIAL AND METHODS

The research project was approved by the Human Research Ethics Committee of the Federal University of Juiz de Fora, under opinion no. 5,468,727. This is an exploratory, cross-sectional study using a quantitative approach to data collection and analysis. The inclusion criteria for the participants were: doctor, nurse, call center attendant, rescue driver and nursing technician, working in ambulances or providing care via 192 emergency calls. The exclusion criteria were: professionals dismissed from employment before data collection and/or professionals who worked exclusively in the Permanent Education Center (*Núcleo de Educação Permanente - NEP*).

Personal data were obtained through a sociodemographic, health and work questionnaire from professionals. The document requested information such as sex, age, race, marital status, number of children, monthly income, education, professional category, field of activity, employment relationship, work shift, experience time in *SAMU*, the presence of another employment relationship, the weekly workload accumulated with other relationships, the presence of systemic comorbidities, treatment with a psychologist or psychiatrist, the use of medication, the number of leaves of absence in recent months, dietary, sleep and physical activity habits. Furthermore, the question was asked which proposals would have the most impact on the work routine aiming to reduce stress, with the participant being allowed to select more than one proposal.

Participants also responded to the Maslach Burnout Inventory, a psychology inventory created by Christina Maslach and Susan Jackson in 1986, and later translated and validated into Portuguese<sup>11</sup>. This questionnaire aims to identify the dimensions of Burnout Syndrome signs; it is composed by 22 questions, with 9 aimed at identifying the level of emotional exhaustion, 8 aimed at analyzing personal achievement, and another 5 are aimed at assessing the degree of depersonalization. All responses are presented on a six-point Likert scale (0 = never; 1 = a few times a year; 2 = once a month; 3 = a few times a month; 4 = once a week; 5 = a few times per week; and 6 = every day). The score in each of the three dimensions is calculated by adding the points of the items related to each domain. Scores above 26 in relation to “Emotional exhaustion”, associated with scores above 9 in relation to “Depersonalization”, and below 34 for “Personal achievement”, are indicators of high risk for manifestation of Burnout signs. There are also ranges of scores that indicate medium risk and low risk for the manifestation of BS; however, these risks were grouped into non-high risk in the present study<sup>12,13,14</sup>.

The participants were approached individually, respecting the following protocol: obtaining a list of professionals' names from the *CISDESTE* administrative sector; contact the coordinators of each sector to schedule visits; personal

contact with research participants during shift changes to present the study; request for the consent form; immediate delivery and collection of documents. The questionnaires were applied between July and September 2022 with 16 visits being conducted, 9 during the day (between 7am and 7pm) and 7 at night (between 7pm and 6am).

The data were analyzed using the Statistical Package for the Social Sciences® version 26 from a database built in the Excel® program. Absolute and relative frequency measurements were obtained from the collected data. The Chi-squared association test with correction by Fisher's Exact test were used to compare proportions between independent variables and outcome variables (exhaustion, personal achievement, depersonalization and Burnout signs). Crude and adjusted

odds ratios were obtained by logistic regression. Model fit was obtained using the Hosmer-Lemeshow test. A confidence level of 95% was considered ( $\alpha = 0.05$ ) for all tests.

## RESULTS

A total of 164 professionals were eligible to participate in the study when obtaining the list of names linked to the *CISDESTE* headquarters. However, there was a sample loss of 23 professionals for various reasons: they did not want to participate in the study (7), they were away from work (6), they were on a work trip (1), they were on vacation (5), or they did not complete the questionnaire (4), thus obtaining a final sample of 141 professionals (Figure 1).

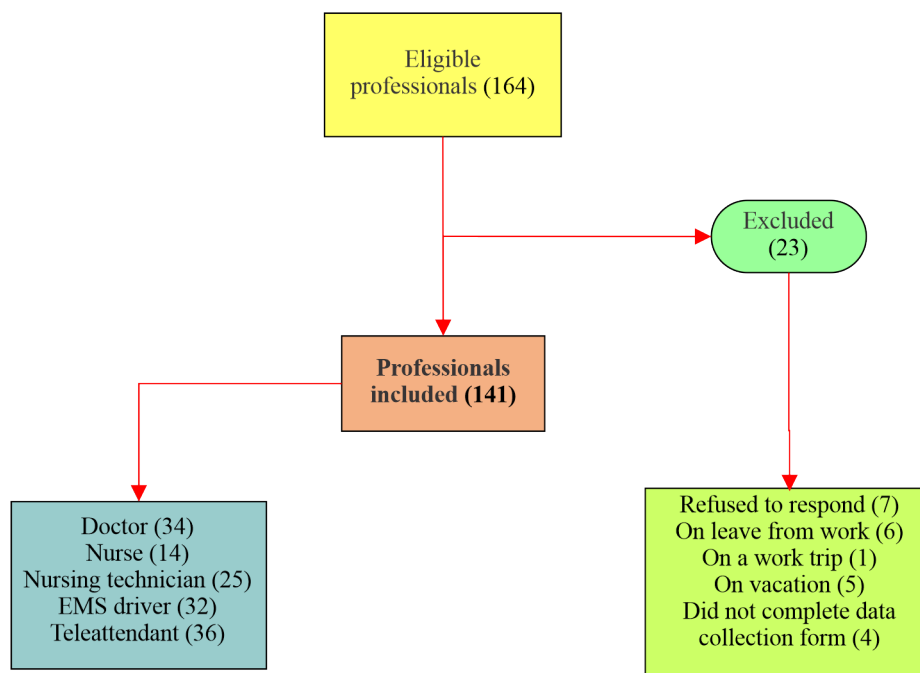


Figure 1 - Participant flowchart.

Among the 141 research participants, 71 were female and another 70 were male. The majority of professionals were under 40 years of age, single, white, had completed higher education, with a personal monthly income below R\$3,000 and a family income of up to R\$5,000. In relation to health, the majority did not have systemic comorbidity, did not regularly use psychiatric medication, were not undergoing treatment with a psychologist/psychiatrist and had not been removed from work in the last 6 months due to mental instability. Regarding lifestyle habits, the majority reported sleeping less than 7 hours a day and admitted not having a healthy diet, but were practicing physical activity weekly. The majority of the participants were civil servants, working at *SAMU* for less than 5 years, working exclusively in

ambulances, with a predominance of night shifts, having other jobs, with an accumulated weekly workload of between 24 and 48 hours (Table 1).

Table 2 presents the responses to the Maslach Burnout Inventory. In relation to emotional exhaustion, it is noted that 93.6% of workers reported having already felt consumed by work, with this symptom being present daily in 29.1% of professionals. Furthermore, 31.9% of respondents report that they are doing many worthwhile things every day in their job. It is also noted that emotional exhaustion does not seem to interfere with care, as 73% of professionals reported never having treated their patients as if they were objects.

**Table 1 -** Description of sociodemographic, health and work variables of *CISDESTE* professionals – Juiz de Fora, Brazil (2022)

Variables	Absolute frequency (Relative frequency %)	Variables	Absolute frequency (relative frequency %)
<b>Sex</b>		<b>Systemic comorbidities</b>	
Male	70 (49.6)	Absence	118 (83.7)
Female	71 (50.4)	Presence	23 (16.3)
<b>Age range</b>		Diabetes	4 (17.4)
≤ 30	48 (34.0)	Cardiovascular	10 (43.5)
31-40	64 (45.5)	Mental	2 (8.7)
41-50	24 (17.0)	Others	7 (30.4)
> 50	5 (3.5)	<b>Use of psychiatric medication</b>	
<b>Race/skin color*</b>		No	112 (79.4)
White	85 (60.7)	Yes	29 (20.6)
Brown	34 (24.3)	Anxiolytic	10 (34.5)
Black	21 (15.0)	Antidepressant	8 (27.6)
<b>Civil status*</b>		More than one group	10 (34.5)
Single	57 (41.0)	Did not know how to answer	1 (3.4)
Married	49 (35.3)	<b>Psychological/psychiatric treatment</b>	
Divorced	15 (10.8)	Never	79 (56.0)
Stable union	18 (12.9)	Currently	23 (16.3)
<b>Children*</b>		Have before	39 (27.7)
0	62 (45.30)	<b>Healthy diet</b>	
1-2	64 (46.7)	No	73 (51.8)
3-4	11 (8.0)	Yes	68 (48.2)
<b>Education</b>		<b>Physical activity*</b>	
Complete Elementary	1 (0.7)	No	46 (32.9)
Complete Highschool	34 (24.1)	Infrequently	42 (30.0)
Incomplete Higher Education	27 (19.1)	Monthly	2 (1.4)
Complete Higher Education	79 (56.1)	Weekly	50 (35.7)
<b>Professional category</b>		<b>Sleep hours (per 24hr period)</b>	
Doctor	34 (24.1)	< 7	103 (73.1)
Nurse	14 (9.9)	≥ 7 and ≤ 9	37 (26.2)
Nursing Technician	25 (17.7)	> 9	1 (0.7)
Emergency Medical Services Driver	32 (22.7)	<b>Monthly family income (R\$)</b>	
Teleattendant	36 (25.6)	Between 500-2500	44 (31.1)
<b>Active sector</b>		Between 2501-5000	39 (27.7)
Regulation	47 (33.3)	Between 5001-7500	11 (7.8)
Field (ASU/BSU)	71 (50.4)	Between 7501-10000	17 (12.1)
Regulation+Field	23 (16.3)	> 10000	30 (21.3)
<b>Work shift</b>		<b>Experience in SAMU (years)</b>	
Day	41 (29.1)	< 2	41 (29.1)
Night	54 (38.3)	≥ 2 and ≤ 5	61 (43.3)
Day + night	46 (32.6)	> 5 and ≤ 10	26 (18.4)
<b>Professional employment</b>		> 10	13 (9.2)
Private contract	49 (34.8)	<b>Do you have other employment?*</b>	
Civil servant	92 (65.2)	No	68 (48.9)
<b>Personal monthly income (R\$)</b>		Yes	71 (51.1)
Between 500-1500	38 (27.0)	<b>Total weekly workload in hours*</b>	
Between 1501-3000	43 (30.4)	< 24	12 (8.7)
Between 3001-5000	18 (12.8)	≥ 24 and <48h	53 (38.4)
Between 5001-7500	10 (7.1)	≥ 48 and ≤ 60	32 (23.2)
> 7500	32 (22.7)	> 60	41 (29.7)
		<b>Leave due to mental instability - last 6 months</b>	
		0	122 (86.5)
		Between 1 and 3	19 (13.5)

\* Missing Data (Participant chose not to answer the question); ASU = Advanced support unit; BSU = Basic support unit.

**Table 2 - Maslach Burnout Inventory for CISDESTE professionals - Juiz de Fora, Brazil (2022)**

STATEMENT	FREQUENCY?						
	Absolute frequency (relative frequency %)						
<i>EMOTIONAL EXHAUSTION</i> Max. 53 and $\mu$ 23.83 (SD±13.56)	Never (0 points)	A few times a year or less (1 point)	Once a month or less (2 points)	A few times a month (3 points)	Once a week (4 points)	A few times a week (5 points)	Every day (6 points)
1- I feel consumed at the end of a work day	9 (6.4)	9 (6.4)	9 (6.4)	13 (9.2)	13 (9.2)	47 (33.3)	41 (29.1)
2- I feel like I'm at the end of the line	61 (43.3)	15 (10.6)	10 (7.1)	16 (11.3)	13 (9.2)	12 (8.5)	14 (9.9)
3- I feel emotionally sucked into my work	19 (13.5)	14 (9.9)	17 (12.1)	18 (12.8)	11 (7.8)	29 (20.6)	33 (23.4)
4- I feel frustrated by my job	61 (43.3)	14 (9.9)	15 (10.6)	17 (12.1)	9 (6.4)	10 (7.1)	15 (10.6)
5- I feel exhausted by my work	22 (15.6)	14 (9.9)	26 (18.4)	26 (18.4)	12 (8.5)	18 (12.8)	23 (16.3)
6- I feel like I'm working too hard at my job	18 (12.8)	13 (9.2)	18 (12.8)	26 (18.4)	21 (14.9)	24 (17.0)	21 (14.9)
7- Working directly with people puts a lot of stress on me	44 (31.2)	22 (15.6)	21 (14.9)	20 (14.2)	8 (5.7)	13 (9.2)	13 (9.2)
8- Working with people all day is really a big strain for me	56 (39.7)	22 (15.6)	28 (19.9)	13 (9.2)	11 (7.8)	5 (3.5)	6 (4.3)
9- I feel tired when I get up in the morning and have to face another day of this job	40 (28.4)	22 (15.6)	21 (14.9)	16 (11.3)	14 (9.9)	12 (8.5)	16 (11.3)
<i>PERSONAL ACHIEVEMENT</i> Max. 48 and $\mu$ 33.5 (SD±9.87)	Never (0 points)	A few times a year or less (1 point)	Once a month or less (2 points)	A few times a month (3 points)	Once a week (4 points)	A few times a week (5 points)	Every day (6 points)
10- I feel very willing	13 (9.2)	10 (7.1)	21 (14.9)	26 (18.4)	16 (11.3)	31 (22.0)	24 (17.0)
11- I feel excited after working closely with my patients	12 (8.5)	12 (8.5)	14 (9.9)	29 (20.6)	22 (15.6)	26 (18.4)	26 (18.4)
12- I can easily create a relaxed atmosphere with my patients	13 (9.2)	1 (0.7)	10 (7.1)	17 (12.1)	20 (14.2)	37 (26.2)	43 (30.5)
13- I feel that I positively influence other people through my work	4 (2.8)	4 (2.8)	7 (5.0)	14 (9.9)	18 (12.8)	42 (29.8)	52 (36.9)
14- I deal effectively with the problems of my patients	3 (2.1)	9 (6.4)	9 (6.4)	16 (11.3)	14 (9.9)	38 (27.0)	52 (36.9)
15- I can easily understand how my patients feel about things	4 (2.8)	1 (0.7)	5 (3.5)	18 (12.8)	16 (11.3)	38 (27.0)	59 (41.8)
16- I deal with emotional problems very calmly in my work	8 (5.7)	3 (2.1)	14 (9.9)	17 (12.1)	26 (18.4)	34 (24.1)	39 (27.7)
17- I have accomplished many worthwhile things in this job	7 (5.0)	3 (2.1)	17 (12.1)	19 (13.5)	16 (11.3)	34 (24.1)	45 (31.9)
<i>DEPERSONALIZATION</i> Max. 30 and $\mu$ 7.09 (SD±6.07)	Never (0 points)	A few times a year or less (1 point)	Once a month or less (2 points)	A few times a month (3 points)	Once a week (4 points)	A few times a week (5 points)	Every day (6 points)
18- I feel that patients blame me for some of their problems	72 (51.1)	14 (9.9)	14 (9.9)	12 (8.5)	7 (5.0)	7 (5.0)	15 (10.6)
19- I feel that I treat some patients as if they were objects	103 (73.0)	15 (10.6)	13 (9.2)	8 (5.7)	0	1 (0.7)	1 (0.7)
20- I have become more insensitive towards people since I got this job	65 (46.1)	14 (9.9)	19 (13.5)	9 (6.4)	9 (6.4)	9 (6.4)	16 (11.3)
21- I really don't care about what happens to some patients	100 (70.9)	15 (10.6)	5 (3.5)	5 (3.5)	5 (3.5)	6 (4.3)	5 (3.5)
22- I worry that this job is hardening me emotionally	50 (35.5)	17 (12.1)	16 (11.3)	14 (9.9)	11 (7.8)	12 (8.5)	21 (14.9)

Max. = Maximum Value  $\mu$  = Mean SD = Standard Deviation

Table 3 demonstrates that high emotional exhaustion (↑EE), low personal achievement (↓PA) and high depersonalization (↑DP) were found in 63 (44.7%), 60 (42.5%) and 54 (38.3%) of professionals, respectively. However, only 22 professionals (15.6%) presented scores that classified them as being at high risk for Burnout Syndrome. Emotional exhaustion was significantly associated with being a woman, working at night, being a civil servant and having between 2 and 5 years

of experience in the service. Low personal achievement was only associated with being a civil servant. Depersonalization showed a strong association with the condition of being black, working at night, being a civil servant and not having another employment relationship. Finally, there is a strong association of Burnout Syndrome in professionals who have 1-2 children and who have a monthly personal income between R\$500 and 1500.

**Table 3 - Variables associated with emotional exhaustion, personal achievement, depersonalization and Burnout syndrome signs in CISDESTE professionals – Juiz de Fora, Brazil (2022)**

Variable	↑EE	%'	p	↓PA	%'	p	↑DP	%'	p	BS	%'	p
<b>Sex</b>												
Male	26	37.1	<b>0.05*</b>	26	37.1	0.13	28	40.0	0.68	9	12.9	0.26
Female	37	52.1		34	47.9		26	36.6		13	18.3	
<b>Race/skin color</b>												
White	43	50.6	0.11	33	38.8	0.45	32	37.6	<b>0.03*</b>	11	12.9	0.17
Brown	10	29.4		16	47.1		9	26.5		4	11.8	
Black	10	47.6		11	52.4		13	61.9		6	28.6	
<b>Civil status*</b>												
Single	22	38.6	0.69	25	43.9	0.48	19	33.3	0.21	8	14.0	0.78
Married	22	44.9		18	36.7		16	32.7		6	12.2	
Divorced	8	53.3		5	33.3		9	60.0		2	13.3	
Stable union	9	50.0		10	55.6		8	44.4		4	22.2	
<b>Children*</b>												
0	22	35.5	0.12	27	43.5	0.97	24	38.7	0.70	7	11.3	<b>0.01*</b>
1-2	34	53.1		27	42.2		26	40.6		10	15.6	
3-4	4	36.4		5	45.5		3	27.3		5	45.5	
<b>Age range</b>												
≤ 30	14	29.2	0.46	21	43.8	0.46	15	31.3	0.08	5	10.4	0.80
31-40	35	54.7		29	45.3		26	40.6		12	18.8	
41-50	13	54.2		7	29.2		13	54.2		5	20.8	
< 50	1	20.0		3	60		0	0		0	0	
<b>Healthy diet</b>												
No	38	52.1	0.49	34	46.6	0.2	29	39.7	0.43	12	16.4	0.78
Yes	25	36.8		26	38.2		25	36.8		10	14.7	
<b>Physical activity*</b>												
No	27	58.7	0.1	16	34.8	0.46	18	39.1	0.85	6	13.0	0.11
Infrequently	15	35.7		22	52.4		18	42.9		3	7.1	
Monthly	0	0		1	50.0		1	50.0		0	0	
Weekly	20	40.8		20	40.8		17	34.7		13	26.5	
<b>Sleep hours (per 24h period)</b>												
< 7	50	48.5	0.13	42	40.8	0.49	41	39.8	0.65	19	18.4	0.30
Between 7 and 9	12	32.4		18	48.6		13	35.1		3	8.1	
> 9	1	100		0	0		0	0		0	0	
<b>Professional category</b>												
Doctor	16	47.1	0.12	17	50.0	0.84	14	41.2	0.29	4	11.8	0.11
Emergency medical services driver	9	28.1		12	37.5		12	37.5		2	6.3	
Nurse	9	64.3		4	28.6		4	28.6		2	14.3	
Teleattendant	15	41.7		19	52.8		18	50.0		6	16.7	
Nursing technician	14	56.0		8	32.0		6	24.0		8	32.0	
<b>Active sector</b>												
Regulation	19	40.4	0.72	25	53.2	0.10	23	48.9	0.14	7	14.9	0.89
Field (ASU/BSU)	34	47.9		24	33.8		22	31.0		12	16.9	
Regulation+Field	10	43.5		11	47.8		9	39.1		3	13.0	
<b>Work shift</b>												
Day	21	51.2	<b>0.02*</b>	19	46.3	0.84	18	43.9	<b>0.05*</b>	5	12.2	0.23
Night	29	53.7		22	40.7		25	46.3		12	22.2	
Day+night	13	28.3		19	41.3		11	23.9		5	10.9	
<b>Professional employment</b>												
Private contract	13	26.5	<b>&lt;0.01*</b>	15	30.6	<b>0.03*</b>	11	22.4	<b>&lt;0.01*</b>	7	14.3	0.75
Civil servant	50	54.3		45	48.9		43	46.7		15	16.3	
<b>Personal monthly income (R\$)</b>												
Between 500 - 1500	19	50.0	0.90	20	52.6	0.28	20	52.6	0.13	9	23.7	<b>0.05*</b>
Between 1501-3000	17	39.5		16	37.2		13	30.2		5	11.6	
Between 3001-5000	8	44.4		5	27.8		4	22.2		2	11.1	
Between 5001-7500	4	40.0		3	30.0		5	50.0		4	40.0	
> 7500	15	46.9		16	50.0		12	37.5		2	6.3	
<b>Years of experience in SAMU</b>												
< 2	9	22.0	<b>0.01*</b>	14	34.1	0.30	11	26.8	0.32	5	12.2	0.68
Between 2 e 5	34	55.7		31	50.8		25	41.0		11	18.0	
Between 6 e 10	14	53.8		11	42.3		12	46.2		3	11.5	
> 10	6	46.2		4	30.8		6	46.2		3	23.1	
<b>Do you have other employment?*</b>												
No	34	50.0	0.14	30	44.1	0.70	31	45.6	<b>0.05*</b>	13	19.1	0.21
Yes	28	39.4		29	40.8		22	31.0		9	12.7	

continue

continuation

Variable	↑EE	% <sup>1</sup>	p	↓PA	% <sup>1</sup>	p	↑DP	% <sup>1</sup>	p	BS	% <sup>1</sup>	p
<b>Total weekly workload in hours*</b>												
< 24	5	41.7	0.16	3	25.0	0.58	2	16.7	0.23	3	25.0	0.68
Between 24 and 48	27	50.9		24	45.3		24	45.3		9	17.0	
Between 49 and 60	9	28.1		13	40.6		10	31.3		4	12.5	
> 60	21	51.2		19	46.3		17	41.5		5	12.2	

↑EE = Emotional Exhaustion ↓PA = Personal achievement ↑DP = Depersonalization BS = Burnout Syndrome

<sup>1</sup> % in relation to the sample number in each category \* Missing Data

After obtaining the crude and adjusted odds ratios by logistic regression controlled by the sex and age variables (Table 4), it is clear that women are 127% more exhausted than men and that civil servant professionals are 60% less exhausted, 25% less personal achievement, and 57% less depersonalized than privately contracted professionals. On the other hand, black

professionals are 249% more likely to develop depersonalization when compared to white professionals. Finally, it is understood that professionals with 1 or 2 children are 653% more likely to develop Burnout Syndrome when compared to professionals who do not have children.

**Table 4** - Variables associated with BS components in *CISDESTE* professionals – Juiz de Fora, Brazil (2022)

↑ Emotional Exhaustion				
	Crude OR	p-value	Adjusted OR *	p-value
<b>Sex</b>				
Male	1	0.05	1	0.03
Female	1.85 (1.04-3.57)		2.27 (1.07-4.76)	
<b>Shift</b>				
Day	1	0.02	-	
Night	1.05 (0.69-1.61)			
Both	1.81 (1.05-3.14)			
<b>Professional employment</b>				
Private contract	1	0.01	1	0.03
Civil servant	0.30 (0.14-0.65)		0.40 (0.18-0.90)	
<b>Years of experience</b>				
<2	1	<0.01	-	
2-5	0.22 (0.09-0.55)			
5-10	0.24 (0.08-0.70)			
>10	0.33 (0.09-1.22)			
↓ Personal achievement				
	Crude OR	p-value	Adjusted OR *	p-value
<b>Professional employment</b>				
Private contract	1	0.03	1	0.03
Civil servant	0.46 (0.22-0.96)		0.75 (0.32-0.89)	
↑ Depersonalization				
	Crude OR	p-value	Adjusted OR *	p-value
<b>Race/skin color</b>				
White	1	0.03	1	0.05
Brown	2.69 (1.07-7.20)		1.63 (0.56-4.74)	
Black	4.51 (1.41-14.46)		3.49 (1.04-11.76)	
<b>Shift</b>				
Day	1	0.05	-	
Night	0.91 (0.40-2.05)			
Both	2.49 (1.01-6.22)			

continue

continuation

↑ Depersonalization				
Professional employment				
Private contract	1	<0.01	1	0.04
Civil servant	0.33 (0.25-0.72)		0.43 (0.18-0.98)	
Other employment				
No	1	0.05	-	
Yes	1.87 (0.93-3.75)			
Burnout Syndrome				
	Crude OR	p-value	Adjusted OR	p-value
Children				
0	1	0.01	1	0.03
1-2	1.05 (0.92-1.21)		7.53 (1.63-35.34)	
3-4	0.15 (0.4-0.63)		4.51 (1.06-19.13)	
Personal income (in Reias)				
500-1500	1	0.05	-	
1501-3000	0.81 (0.75-5.50)			
3001-5000	0.86 (0.67-8.87)			
5001-7500	0.46 (0.11-2.02)			

\*Adjusted for age

When asked which proposals would have the most impact on their work routine aiming to reduce stress, the majority of participants (79%) reported the need for greater professional valorization (Figure 2).

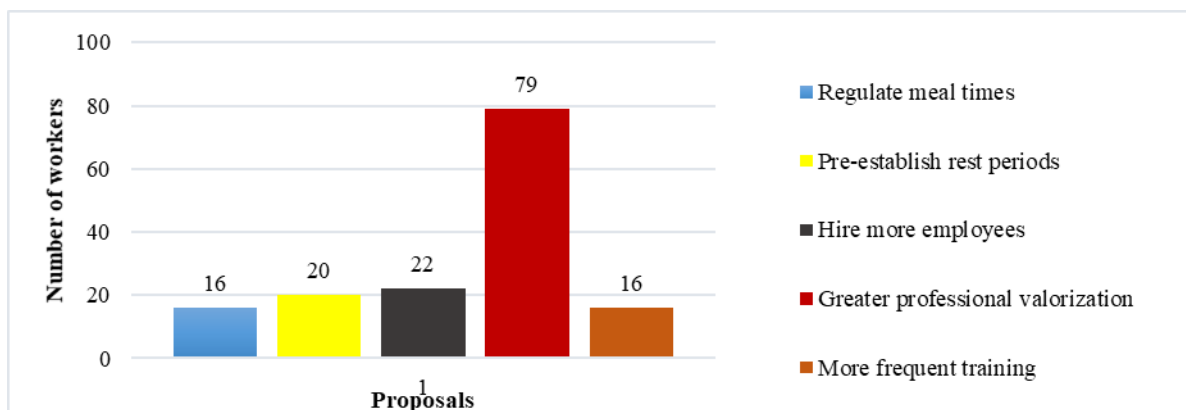


Figure 2 - Proposals from CISDESTE professionals to improve work routines to reduce stress

## DISCUSSION

Literature constantly associates the term Burnout with something that has reached its limit, meaning a condition which is associated with an absolute lack of energy. This syndrome was already included in the ICD-10 (code Z73.0) under the name “exhaustion”, followed by a “state of vital exhaustion”. Since then, there has been great difficulty in defining the best concept for this exhaustion. Guseva Canu et al.<sup>1</sup> carried out a systematic review in search of concepts for professional burnout, finding

88 different definitions. This lack of standardization began to be combatted in 2018 when the World Health Organization included BS in the new International Classification of Diseases (ICD-11) with the code QD85, making it an occupational phenomenon resulting from chronic stress in the workplace. Still, the challenge remains to make the lay population aware that there are differences between BS, depression and stress. BS is not a medical condition, unlike depression which is a chronic psychiatric illness. In turn, stress is an automatic physiological reaction of the body to circumstances that require behavioral



adjustments to the stressors experienced in everyday life. When pathological, it results in transient disorders or serious illnesses<sup>15</sup>.

Burnout syndrome mainly affects professionals who work close to users of their services, as is the case with healthcare workers<sup>15,16,17,18,19,20,21,22,23</sup>. Moukarzel et al.<sup>20</sup> identified a prevalence of BS in 34.6% of professionals working in the emergency room of a university hospital in France. The same authors report the existence of few studies on different populations in the health area. Most studies target professionals who work in *SAMU*. It is also known that the mobile emergency care service in France was a reference for the creation of *SAMU* in Brazil. Most studies on BS in Brazil target nursing teams, with few studies evaluating the prevalence of BS in multidisciplinary teams, such as those working in *SAMU*. Among these studies include those conducted by Sé et al.<sup>18</sup> and Figueiroa et al.<sup>22</sup>, which found a high prevalence (77% and 51%) of BS in professionals working in the states of Rio de Janeiro and Paraná.

In the present study, we evaluated the coexistence of three interdependent components: emotional exhaustion, depersonalization and personal achievement, in addition to Burnout Syndrome. In analyzing emotional exhaustion, it was noted that women were 127% more likely to develop emotional exhaustion. This result may be the result of issues related to the process of social organization, where women combine their work activities with home and family activities on a daily basis<sup>24</sup>.

A study conducted at *SAMU* in Campinas identified that the majority of civil servant professionals hired were older than those privately contracted<sup>25</sup>. Braga et al.<sup>26</sup> highlight the hierarchy which may exist between these groups, with privately contracted professionals being expected to present greater professional exhaustion due to greater vulnerability to lose the job. This understanding corroborates the findings of the present study, in which privately contracted professionals were 60% more likely to develop emotional exhaustion, 25% more likely to develop low personal achievement and 57% more likely to develop depersonalization when compared to civil servants. It is also noted that 43.3% of the professionals who took part in this study have between 2-5 years of experience in *SAMU*. This high percentage may reflect dissatisfaction and non-permanence among professionals. This finding corroborates those found in the study by Ramos Costa et al.<sup>27</sup>, in which the average stay in *SAMU* is only 2 years. However, it was not possible to associate years of experience and emotional exhaustion.

Depersonalization showed a strong association with the condition of being black, working at night, being a civil servant and not having another employment relationship. Faro and Pereira<sup>28</sup> add ethnicity as a relevant factor for the prevalence of stress. The authors emphasize that minorities (blacks and indigenous people, among others) tend to be more exposed to stressors such as those linked to discrimination, prejudice and social segregation. In the present study, black professionals showed a higher prevalence of depersonalization, with a frequency almost 3x higher when compared to white professionals.

Working at night can interfere with the quality of life of workers<sup>29</sup>. In addition to altering the biological clock of professionals, it is known that the habit of sleeping during the day can generate fewer hours of rest, capable of favoring faster exhaustion of professionals<sup>30</sup>. Compatible results were found in the present study, where these professionals showed greater exhaustion and depersonalization. On the other hand, Figueiroa et al.<sup>22</sup> discuss the fact that the number of occurrences at night is lower than during the day. Still, they are not able to modify the results. This finding seems to make it very clear how important sleep is for people's health. In this context of lifestyle habits, Conceição et al.<sup>31</sup> concluded that practicing healthy habits is a protective factor for developing BS.

Finally, it is noted that professionals with 1 or 2 children are 653% more likely to develop Burnout Syndrome when compared to professionals who do not have children. Despite agreeing with some authors that the presence of children can balance the worker's emotional state<sup>12,16,31,32</sup>, it should be highlighted that their presence is associated with other challenges, such as dedicating time and increasing expenses which may represent an additional concern for the couple<sup>33</sup>.

There were no significant differences when professional categories were compared in the present study. However, the study by Figueiroa et al.<sup>22</sup> points out that call center attendants and doctors were the professions most affected by BS. This fact can be explained by the fact that these professionals deal with the initial care of patients, at which time companions find themselves in a situation of panic and despair<sup>20</sup>. There is also a lack of studies that evaluate the professional exhaustion of EMS drivers. This professional deserves special attention, as in addition to driving the ambulance, they also participate in providing care to victims, and do not have the same academic background as other professionals, given that the requirement to perform this role is to have completed high school.

Finally, it was noted that many independent variables did not show a significant association with the outcomes. For França et al.<sup>16</sup>, environmental, institutional and organizational issues may be more relevant to the development of BS than personal, health and work factors. However, it should be noted that many of these variables can facilitate or inhibit the action of stressors<sup>34</sup>. Therefore, it is of fundamental importance that institutions are aware of the profile of professionals and are attentive to their demands.

## CONCLUSION

The activities conducted by professionals who work in the Mobile Emergency Care Service are of great value to the population, and it is important to pay attention to the health and satisfaction of this group of workers. The prevalence of Burnout syndrome in the study population was 15.6%. Professionals with 1 or 2 children are 653% more likely to develop this condition when compared to those who do not have children.

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conception and/or design, data collection, critical review of the manuscript, approval of the final version to be published. Paula Afonso Rodrigues de Carvalho - study conception and/or design, critical review of the manuscript, approval of the final version to be published. Júlio César Oliveira de Andrade - study conception and/or design, critical review of the manuscript, approval of the final version to be published. Isabel Cristina Gonçalves Leite - study conception and/or design, statistical analysis, critical review of the manuscript, approval of the final version to be published. Matheus Furtado de Carvalho - study conception and/or design, data collection, critical review of the manuscript, approval of the final version to be published.

## REFERENCES

- Guseva Canu I, Marca SC, Dell’Oro F, Balázs Á, Bergamaschi E, Besse C, et al. Harmonized definition of occupational burnout: A systematic review, semantic analysis, and Delphi consensus in 29 countries. *Scand J Work Environ Health* 2021;47(2):95-107. [http://www.sjweh.fi/show\\_abstract.php?abstract\\_id=3935](http://www.sjweh.fi/show_abstract.php?abstract_id=3935). <https://doi.org/10.5271/sjweh.3935>
- Sun R, Zhang C, Lv K, Lan Y. Identifying the risk features for occupational stress in medical workers: a cross-sectional study. *Int Arch Occup Environ Health* 2022;95(2):451-64. <https://link.springer.com/10.1007/s00420-021-01762-3>. <https://doi.org/10.1007/s00420-021-01762-3>
- Edú-Valsania S, Laguía A, Moriano JA. Burnout: a review of theory and measurement. *IJERPH* [Internet]. 2022;19(3):1780. <https://www.mdpi.com/1660-4601/19/3/1780>. <https://doi.org/10.3390/ijerph19031780>
- Spencer-Hwang R, Cruz A, Ong MY, Chitanda A, Harvey Y, Hwang J, et al. Prevalence of Burnout Among Public Health Professionals: A Systematic Review. *J Public Health Manag Pract* [Internet]. 2024;30(3):384-393. <https://pubmed.ncbi.nlm.nih.gov/38603744/>. <https://doi.org/10.1097/PHH.0000000000001887>
- Stumm EMF, Ribeiro G, Kirchner RM, Loro MM, Rosanelli CLSP. Avaliação da saúde e qualidade de vida: profissionais de um SAMU. *Cogitare Enferm* [Internet]. 2009;14(4):620-7. <https://revistas.ufpr.br/cogitare/article/view/16374>. <http://dx.doi.org/10.5380/ce.v14i4.16374>
- Cabral AP de S, Souza WV de, Lima MLC de. Serviço de Atendimento Móvel de Urgência: um observatório dos acidentes de transportes terrestre em nível local. *Rev Bras Epidemiol* [Internet]. 2011;14(1):03-14. [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S1415-790X2011000100001&lng=pt&tlng=pt](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1415-790X2011000100001&lng=pt&tlng=pt). <https://doi.org/10.1590/S1415-790X2011000100001>
- Brasil. Decreto Nº 5.055, de 27 de Abril de 2004. Institui o Serviço de Atendimento Móvel de Urgência – SAMU, em Municípios e regiões do território nacional, e dá outras providências. *Diário Oficial da União*. [Internet]. 2004. [https://www.planalto.gov.br/ccivil\\_03/\\_ato2004-2006/2004/decreto/d5055.htm](https://www.planalto.gov.br/ccivil_03/_ato2004-2006/2004/decreto/d5055.htm)
- Consórcio intermunicipal de saúde da região sudeste - Juiz de Fora/ Minas Gerais [Internet]. <https://www.cisdeste.com.br/site/>
- World Health Organization. WHO Director-General’s statement on IHR emergency committee on novel coronavirus(2019-nCoV) [Internet]. 2020. [https://www.who.int/director-general/speeches/detail/who-director-general-s-statement-on-ihr-emergency-committee-on-novel-coronavirus-\(2019-ncov\)](https://www.who.int/director-general/speeches/detail/who-director-general-s-statement-on-ihr-emergency-committee-on-novel-coronavirus-(2019-ncov))
- Ghahramani S, Lankarani KB, Yousefi M, Heydari K, Shahabi S, Azmand S. A systematic review and meta-analysis of burnout among healthcare workers during covid-19. *Front Psychiatry*. [internet]. 2021;12:1-16. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8631719/pdf/fpsy-12-758849.pdf>. <https://doi.org/10.3389/fpsy.2021.758849>
- Pereira, S. de S., Fornés-Vives, J., Unda-Rojas, S. G., Pereira-Junior, G. A., Jurueña, M. F., & Cardoso, L. (2021). Confirmatory factorial analysis of the Maslach Burnout Inventory – Human Services Survey in health professionals in emergency services. *Rev Latino-Amer Enferm*. 2021;29:e3386. Doi: <https://doi.org/10.1590/1518-8345.3320.3386>
- Jodas DA, Haddad MCL. Burnout Syndrome among nursing staff from an emergency department of a university hospital. *Acta Paul Enferm* [Internet]. 2009;22(2):192-7. [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0103-21002009000200012&lng=pt&tlng=pt](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-21002009000200012&lng=pt&tlng=pt). <https://doi.org/10.1590/S0103-21002009000200012>
- Ezaias GM, Gouvea PB, Haddad MCL, Vannuchi MTO, Sardinha DSS. Síndrome de Burnout em trabalhadores de saúde em um hospital de média complexidade. *Rev Enferm UERJ* [Internet]. 2010;524-9. <https://pesquisa.bvsalud.org/portal/resource/pt/lil-583568>
- Costa JA, Fasanella NA, Schmitz BM, Siqueira PC. Burnout Syndrome: an analysis of the mental health of medical residents in a teaching hospital. *Rev Bras Educ Med* [Internet]. 2022;46(1):1-10. [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0100-55022022000100208&tlng=pt](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0100-55022022000100208&tlng=pt). Doi: <https://doi.org/10.1590/1981-5271v46.1-20210179>
- Scardovelli Filho S, Montanha HA, Rosseto AA. A Síndrome de Burnout nos profissionais da saúde no período pandêmico da COVID-19: uma revisão de literatura. *Braz J Health Rev* [Internet]. 2022;5(5):20209-2218. <https://ojs.brazilianjournals.com.br/ojs/index.php/BJHR/article/view/52773>. Doi: <https://doi.org/10.34119/bjhrv5n5-192>
- França SPS, Aniceto EVS, De Martino MMF. Predictors of burnout syndrome in nurses in the prehospital emergency services. *Acta Paul Enferm* [Internet]. 2011;25(1):68-73. [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0103-21002012000100012&lng=pt&tlng=pt](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-21002012000100012&lng=pt&tlng=pt). Doi: <https://doi.org/10.1590/S0103-21002012000100012>
- Teo I, Chay J, Cheung YB, Sung SC, Tewani KG, Yeo LF, et al. Healthcare worker stress, anxiety and burnout during the COVID-19 pandemic in Singapore: A 6-month multi-centre prospective study. *PLoS One* [Internet] 2021;16(10):1-14. <https://pubmed.ncbi.nlm.nih.gov/34679110/>. Doi: <https://doi.org/10.1371/journal.pone.0258866>.
- Sé ACS, Machado WCA, Passos JP, Gonçalves RCS, Cruz VV, Bittencourt LP, et al. Prevalência da síndrome de burnout em enfermeiros do atendimento pré-hospitalar. *Res Soc Develop* [Internet]. 2020;9(7):1-17. <https://rsdjournal.org/index.php/rsd/article/view/5265>. Doi: <https://doi.org/10.33448/rsd-v9i7.5265>
- Dunne PJ, Lynch J, Prihodova L, O’Leary C, Ghoreyshi A, Basdeo SA, et al. J Integr Med Burnout in the emergency department: Randomized controlled trial of an attention-based training program. [Internet]. 2019;17(3):173-80. <https://pubmed.ncbi.nlm.nih.gov/34679110/>

- gov/30956141/. Doi: <https://doi.org/10.1016/j.joim.2019.03.009>.
20. Moukarzel A, Michelet P, Durand A-C, Sebbane M, Bourgeois S, Markarian T, et al. Burnout Syndrome among Emergency Department Staff: Prevalence and Associated Factors. *BioMed Res Internat* [Internet]. 2019;4(5):1-10. Doi: <https://doi.org/10.1155/2019/6462472>.
  21. Lima ADS, Farah BF, Bustamante-Teixeira MT. Análise da prevalência da síndrome de burnout em profissionais da atenção primária em saúde. *Trab Educ Saúde* [Internet]. 2017;16:283-304. Doi: <https://doi.org/10.1590/1981-7746-sol00099>.
  22. Figueiroa GB, Peruzzo HE, Gil NLM, Back IR, Silva ES, Marcon SS. Síndrome de burnout entre profissionais de um serviço de atendimento móvel de urgência do paraná. *Cogitare Enferm* [Internet]. 2019;24. <https://revistas.ufpr.br/cogitare/article/view/61917>. Doi: <http://dx.doi.org/10.5380/ce.v24i0.61917>
  23. Huiqing Long, Qingshu Li, Xiaogang Zhong, Lu Yang, Yiyun Liu, Juncai Pu, et al. The prevalence of professional burnout among dentists: a systematic review and meta-analysis. *Psychol Health Med* [Internet]. 2023;1(1):15-27. <https://pubmed.ncbi.nlm.nih.gov/37138501/>. Doi: <https://doi.org/10.1080/13548506.2023.2208364>. Epub 2023 May 3.
  24. Borsa JC, Nunes MLT. Aspectos psicossociais da parentalidade: o papel de homens e mulheres na família nuclear. *Psicol Argum* [Internet]. 2011;29(64):31-9. <http://www2.pucpr.br/reol/index.php/PA?dd1=4524&dd99=view>. Doi: <https://doi.org/10.1590/S0104-11692011000400022>
  25. Vegian CFL, Monteiro MI. Living and working conditions of the professionals of the a Mobile Emergency Service. *Rev Latino-Amer Enferm* [Internet]. 2011;19(4):1018-24. <https://www.scielo.br/j/rlae/a/fjwBJN6ryfKpGBxCvQVqsyC/?lang=en>. Doi: <https://doi.org/10.1590/S0104-11692011000400022>
  26. Braga F de JL, Cordeiro MP, Ribeiro MA. Relação entre servidores/as contratados/as e concursados/as em serviços da assistência social: impactos sobre o trabalho. *Rev Interinst Psicol* [Internet]. 2021;14(2):1-24. [http://pepsic.bvsalud.org/scielo.php?script=sci\\_abstract&pid=S1983-82202021000200015&lng=pt&nrm=iso&tlng=pt](http://pepsic.bvsalud.org/scielo.php?script=sci_abstract&pid=S1983-82202021000200015&lng=pt&nrm=iso&tlng=pt)
  27. Ramos Costa MA, Soares De Souza V, Dias J, Cussunoque L, Francine G, Francisqueti V. Concepção dos profissionais de serviço de emergência sobre qualidade de vida. *Semin Cienc Biol Saude* [Internet]. 2017;38(1):35-44. <https://ojs.uel.br/revistas/uel/index.php/seminabio/article/view/25537>. Doi: <https://doi.org/10.5433/1679-0367.2017v38n1p35>
  28. Faro A, Pereira ME. Raça, racismo e saúde: a desigualdade social da distribuição do estresse. *Estud Psicol (Natal)* [Internet]. 2011;16(3):271-8. <https://www.scielo.br/j/epsic/a/tNVbv6Bxm9qrXSZdf4SMWxt/#>. Doi: <https://doi.org/10.1590/S1413-294X2011000300009>
  29. Rotenberg L, Portela LF, Marcondes WB, Moreno C, Nascimento C de P. Gênero e trabalho noturno: sono, cotidiano e vivências de quem troca a noite pelo dia. *Cad Saúde Pública* [Internet]. 2001;17(3):639-49. [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0102-311X2001000300018&lng=pt&tlng=pt](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0102-311X2001000300018&lng=pt&tlng=pt). Doi: <https://doi.org/10.1590/S0102-311X2001000300018>
  30. Simões J, Bianchi LRO. Prevalência da Síndrome de Burnout e qualidade do sono em trabalhadores técnicos de enfermagem. *Rev Saude Pesquisa* [Internet]. 2016;9(3):473. <http://periodicos.unicesumar.edu.br/index.php/saudpesq/article/view/5230>. Doi: <https://doi.org/10.17765/1983-1870.2016v9n3p473-481>
  31. Conceição FC da, Araujo MD, Luciano LDS, Coelho MC de R. Hábitos de vida e dimensões da síndrome de burnout entre trabalhadores da emergência pré-hospitalar. *Rev Baiana Enferm* [Internet]. 2019;33:1-10. <https://portalseer.ufba.br/index.php/enfermagem/article/view/27539>. Doi: <https://doi.org/10.18471/rbe.v33.27539>
  32. Luz LM, Barbosa Torres RR, Sarmento KMQ, Sales JMR, Farias KN, Marques MB. Burnout Syndrome in urgency mobile service professionals. *J Res: Fundam. Care* [Internet]. 2017;9(1):238-46. <http://seer.unirio.br/cuidadofundamental/article/view/5400>. Doi: <https://doi.org/10.9789/2175-5361.2017.v9i1.238-246>
  33. Carlotto MS. O impacto de variáveis sociodemográficas e laborais na síndrome de Burnout em técnicos de enfermagem. *Rev SBPH* [Internet]. 2011;14(1):165-85. [http://pepsic.bvsalud.org/scielo.php?script=sci\\_abstract&pid=S1516-08582011000100010&lng=pt&nrm=iso&tlng=pt](http://pepsic.bvsalud.org/scielo.php?script=sci_abstract&pid=S1516-08582011000100010&lng=pt&nrm=iso&tlng=pt)
  34. Pereira da Cruz FM, Da Silva Nascimento Pontes A, Rodrigues dos Santos Porto TN, Teixeira Feitosa G, Pereira de Sousa Neto B, Andrade Magalhães N, et al. Impactos decorrentes da síndrome de burnout nos profissionais do Serviço de Atendimento Móvel de Urgência (Samu). *Rev Eletr Acervo Saúde* [Internet]. 2020;12(10):1-11. <https://acervomais.com.br/index.php/saude/article/view/4748>. Doi: <https://doi.org/10.25248/reas.e4748.2020>

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