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# INTERVENING VARIABLES OF BURNOUT IN HEALTH PROFESSIONALS OF EMERGENCY SERVICES

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## ABSTRACT

**Objective:** to analyze the association between Burnout, stress, mental suffering and other personal and work factors associated with this syndrome.
**Method:** cross-sectional, descriptive and correlational study with 282 health professionals from the emergency services of the city of Ribeirão Preto, Brazil, collected from October 2015 to March 2016. The instruments used were: sociodemographic questionnaire, Maslach Burnout Inventory, Childhood Trauma Questionnaire, Stress Symptom Inventory, Perceived Stress Scale, Psychiatric Screening Questionnaire, Fantastic Lifestyle Checklist, Hospital Anxiety and Depression Scale and Holmes-Rahe Social Readjustment Rating Scale. Descriptive writing of the data. Pearson's Chi-Square or Fisher's Exact Tests to check the association between variables and later regression analysis, in which ORs were calculated, with 95% CI and 5% significance level.
**Results:** there was statistical evidence of an association between Burnout and education, early stress, stress, common mental disorders, lifestyle, anxiety and depression. The regression analysis shows that the variables that influence Burnout are: type of service (p=0.032; OR=0.187), education (p=0.029; OR=2.313), perception of stress (p=0.037; OR=1.67) and social readjustment (p=0.031; OR=1.279).
**Conclusion:** this study points to a profile for the development of Burnout, consisting of health professionals with higher education, who suffered early stress, who have symptoms and perception of stress, who do not have a healthy lifestyle and show symptoms of mental suffering. Such results can assist in the development and implementation of strategies aimed at reducing both work stress and the prevalence of Burnout syndrome.

**DESCRIPTORS:** Burnout. Health professionals. Emergency services. Intervening variables. Psychological stress.

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## VARIÁVEIS INTERVENTORAS DO *BURNOUT* EM PROFISSIONAIS DE SAÚDE DOS SERVIÇOS EMERGENCIAIS


### RESUMO

**Objetivo:** analisar a associação entre *Burnout*, estresse, sofrimento mental e demais fatores pessoais e laborais associados a esta síndrome.
**Método:** estudo transversal, descritivo e correlacional entre 282 profissionais de saúde dos serviços de emergências da cidade de Ribeirão Preto, Brasil, coletado de outubro de 2015 a março de 2016. Utilizados os instrumentos: questionário sociodemográfico, *Maslach Burnout Inventory*, *Childhood Trauma Questionnaire*, Inventário de Sintomas de Stress, Escala de Estresse Percebido, *Psychiatric Screening Questionnaire*, Questionário de Estilo de Vida Fantástico, Escala Hospitalar de Ansiedade e Depressão e Escala de Reajustamento Social de Holmes-Rahe. Redação descritiva dos dados. Testes Qui-Quadrado de Pearson ou Exato de Fisher para verificar a associação entre as variáveis e posteriormente análise de regressão, na qual foram calculados OR, com IC de 95% e o nível de significância de 5%.
**Resultados:** houve evidência estatística de associação entre *Burnout* e escolaridade, estresse precoce, estresse, transtornos mentais comuns, estilo de vida, ansiedade e depressão. A análise de regressão evidencia que as variáveis que influenciam no *Burnout* são: tipo de serviço (p=0,032; OR=0,187), escolaridade (p=0,029; OR=2,313), percepção de estresse (p=0,037; OR=1,67) e reajustamento social (p=0,031; OR=1,279).
**Conclusão:** este estudo aponta um perfil para o desenvolvimento de *Burnout*, constituído por profissionais de saúde com maior escolaridade, que sofreram estresse precoce, que apresentam sintomas e percepção de estresse, que não possuem um estilo de vida saudável e apresentam sintomas de sofrimento mental. Tais resultados podem auxiliar no desenvolvimento e implementação de estratégias visando reduzir tanto o estresse laboral como a prevalência da síndrome de *Burnout.*



**DESCRITORES:** Burnout. Profissionais de saúde. Serviços de emergência. Variáveis interventoras. Estresse psicológico.


## VARIABLES DE INTERVENCIÓN DEL *BURNOUT* EN LOS PROFESIONALES SANITARIOS DE LOS SERVICIOS DE EMERGENCIA


### RESUMEN

**Objetivo:** analizar la asociación entre *Burnout*, estrés, sufrimiento mental y otros factores personales y laborales asociados a este síndrome.
**Método:** estudio transversal, descriptivo y correlacional entre 282 profesionales sanitarios de los servicios de emergencia de la ciudad de Ribeirão Preto, Brasil, recolectados de octubre de 2015 a marzo de 2016. Utilizados os instrumentos: Los instrumentos utilizados fueron: cuestionario sociodemográfico, Inventario de Burnout de Maslach, Cuestionario de Trauma Infantil, Inventario de Síntomas de Estrés, Escala de Estrés Percibido, Cuestionario de Exploración Psiquiátrica, Cuestionario de Estilo de Vida Fantástico, Escala de Ansiedad y Depresión Hospitalaria y Escala de Reajuste Social de Holmes-Rahe. Redacción descriptiva de los datos. Prueba Chi-Cuadrado de Pearson o Prueba exacta de Fisher para comprobar la asociación entre variables y posterior análisis de regresión, en el que se calcularon OR, con IC del 95% y nivel de significancia del 5%.
**Resultados:** hubo evidencia estadística de asociación entre Burnout y educación, estrés temprano, estrés, trastornos mentales comunes, estilo de vida, ansiedad y depresión. El análisis de regresión muestra que las variables que influyen en el Burnout son: tipo de servicio (p=0.032; OR=0.187), educación (p=0.029; OR=2.313), percepción de estrés (p=0.037; OR=1.67) y reajuste social (p=0.031; OR=1.279).
**Conclusión:** Este estudio apunta a un perfil para el desarrollo del Burnout, conformado por profesionales sanitarios con educación superior, que sufrieron estrés temprano, que presentan síntomas y percepción de estrés, que no tienen un estilo de vida saludable y presentan síntomas de sufrimiento mental. Dichos resultados pueden ayudar en el desarrollo e implementación de estrategias destinadas a reducir tanto el estrés laboral como la prevalencia del síndrome de Burnout.



**DESCRIPTORES:** Burnout. Profesionales sanitarios. Servicios de emergencia. Variables de intervención. Estrés psicológico.

## INTRODUCTION

Although there are several theoretical references that explain Burnout, the most used is that of Maslach and Jackson, who consider it as a syndrome composed of three dimensions, emotional exhaustion, depersonalization and low personal fulfillment that can be observed in professionals who work in constant contact and direct with people,[1–3] it can arise as a response to chronic work stress added to the lack of individual resources to deal with the demands of work.[4–5]

In addition to the studies describing the occurrence rates of Burnout and its dimensions in different occupational groups, its main causes and consequences have been investigated. At the organizational level, work overload, role conflict, interpersonal difficulties, pressure of responsibility and lack of autonomy in the configuration of Burnout have been found. Considering the individual variables related to Burnout, gender, age and education are the independent variables most frequently investigated.[2]

In the literature, there are still other variables that have been investigated.[6–7] In this study, it was considered the inclusion of other individual variables, such as stress at three different moments: early stress, current stress and the perception of stress by individual; the symptoms of mental suffering, anxiety and depression; the type of lifestyle and the ease or not of readjusting to changes throughout life.

The consequences of Burnout can be seen in both physical and emotional stress. Symptoms such as headache, dizziness, dyspnea, sleep disturbances, emotional lability, irritability, anger and anxiety added to the lack of social skills. In the context of work, low productivity usually occurs, interpersonal conflicts, dependence on psychotropic substances, reduced satisfaction both at work and in personal life.[2] In general, the clinical picture is varied and can include psychosomatic, psychological and behavioral symptoms and the consequences at individual, professional, family and social levels.[3]

The variables considered related to Burnout can be classified into two groups: situational factors, which correspond to the characteristics of organizations and individual factors, which correspond to personal and personality characteristics.[8] Some variables are known in the literature as predictors of Burnout such as gender, age, years of experience in the job, job satisfaction and work/home interaction.[1] A recent longitudinal study, which followed a cohort of nursing students from the beginning of the profession to the three years of work experience, showed that the neuroticism personality trait, that is, those individuals who have a greater tendency to a negative emotional state, added to the use of emotional coping strategies in the face of stress, were predictors of Burnout.[9]

Health professionals belong to a very relevant group regarding the prevalence of Burnout. Health professionals who suffer from the syndrome generally experience reduced quality of work, greater procedural errors, absenteeism, less commitment to work, decreased satisfaction, greater personal suffering, increased conflicts with colleagues and family, alcohol abuse and other substances, lower levels of physical activity or leisure activities.[1,6]

Because Burnout is a syndrome caused by chronic stress, associated with both environmental and personal factors, it would be interesting to study the possible relationships between its development and stress situations, be it early stress, recent stress and mental suffering.

Considering the need to better understand to better intervene in the promotion of the health of professionals, and to be able to identify possible intervening variables in the development process of the syndrome, this study aimed to analyze the association between Burnout, stress, mental suffering and other personal and work factors associated with it.

## METHOD

This is a cross-sectional, analytical and correlational study, carried out in urgent and mobile emergency, pre-hospital and hospital services in the city of Ribeirão Preto - SP, Brazil.

The population was 840 professionals and the stratified random sample comprised of 282 professionals (doctors, nurses, technicians and nursing assistants). Therefore, a prevalence of 50% was considered, a relative error of 10%, a significance of 5%. The inclusion criterion was a period of service of at least one year. After the organization in a spreadsheet in Microsoft Excel software, the list of professionals in alphabetical order considering the exclusion criterion, the stratified random sample was processed through the SPSS version 22 program, and the randomized professionals were then invited to participate in the stud, with no possibility of replacement in case of refusal. The duration of the collection was six months.

282 health professionals participated in the survey, representing a response rate equivalent to 88.9%. The losses (11.1%) were due to refusals (6.8%) and failure to return the questionnaire (4.3%).

Considering the ethical aspects related to research involving human beings (Resolution 466/2012), all ethical aspects were respected and the institution's Ethics Committee approved the research project. Participants were assured that the information obtained would not make it possible to identify them, and everyone was informed about the research, the objectives, the risks and benefits, as well as the rights and care guaranteed to them. The collection took place from October 2015 to March 2016 and nine self-administered instruments were used. A questionnaire consisting of 20 questions related to sociodemographic, work and health characteristics.

For the collection of data related to Burnout, the Maslach Burnout Inventory – Human Services Survey (MBI-HSS) was used, translated and validated to Portuguese by Lautert among hospital nurses.[10] The scale consists of 22 items on a five-point Likert scale, which reflect the dimensions emotional exhaustion (9 items; $\alpha$=0.88), depersonalization (5 items; $\alpha$=65) and personal fulfillment (8 itens; $\alpha$=0.94).[11] The calculation of the individuals' scores is performed by assigning values related to frequency. A low level of Burnout reproduces itself in low scores in the subscales of "emotional exhaustion (≤16)" and "depersonalization (≤6)" and high score for "personal fulfillment (≥39)". A high level, on the other hand, results in high scores for the subscales of "emotional exhaustion (≥27)" and "depersonalization (≥13)" and a low score for "personal fulfillment (≤31)".[11]

The stress variable was assessed using three scales. The Childhood Trauma Questionnaire (CTQ) assesses early stress. It was prepared by Bernstein and collaborators, it is a retrospective, self-administered interview, which investigates the history of abuse and neglect during childhood. It has 28 items, on a five-point Likert scale that assesses five childhood trauma subtypes: physical abuse (5 items), sexual abuse (5 items), emotional abuse (5 items), physical neglect (5 items), emotional neglect (5 items) and 3 items that correspond to the minimization/denial control scale of the abuse experience. It was translated and adapted to Portuguese by Grassi-Oliveira and collaborators, with internal consistency ranging from $\alpha$=0.66 to $\alpha$=0.92. The score is made through the sum of points referring to the assertive box of each dimension, totaling five scores. For the individual to be classified as having early stress in childhood, it is necessary that his/her score be within the classification of moderate-severe or severe-extreme (≥13 for Emotional Abuse; ≥10 for Physical Abuse; ≥8 for Sexual Abuse; ≥15 for Physical Neglect and ≥10 for Emotional Neglect).[12]

The Stress Symptom Inventory (SSI) assesses recent stress. It takes as a basis the principles of Selye's theory and assesses 47 symptoms presented by the individual (whether somatic or psychological) and the phase of stress, at different times: last 24 hours, last week, last month, being possible to identify if the individual is alert, resistance, almost exhaustion or exhaustion phase. It

was prepared by Lipp, validated by Lipp and Guevara and standardized by Lipp in 2000, and has an internal consistency of α=0.91.[13]

The Perceived Stress Scale (PSS) refers to the individual's assessment of certain potentially life threatening events. It is a general scale, which can be used in different age groups, from adolescents to the elderly, as it does not contain context-specific questions that was developed by Cohen and collaborators. The scale was translated and validated by Luft and collaborators, it contains 14 items on a five-point Likert scale, with an internal consistency of α=0.80. The total score of the scale is calculated by adding the scores of these 14 questions, which can vary from 0 to 56 points. The higher the score, the greater the perception of stress by the individual.[14]

A Psychiatric Screening Questionnaire (SRQ20) was used to assess symptoms of common mental disorder. It is an instrument developed by the World Health Organization (WHO) and used for the diagnostic suspicion of common mental disorders, characterized by non-psychotic symptoms, such as: non-specific somatic complaints, irritability, insomnia, nervousness, headaches, fatigue, forgetfulness, lack of concentration; as well as a multitude of manifestations that could be characterized as depressive, anxious or somatoform symptoms. It was translated and validated in Brazil initially by Mari and Williams (1985, 1986) and revalidated by Gonçalves, Stein and Kapzinski (2008). In recent research, the instrument showed an internal consistency greater than 0.80%. The score is obtained through the sum of the items and, if the result is greater than or equal to seven YES answers, it indicates mental suffering.[15–16]

The Fantastic Lifestyle Checklist (FANTASTIC) is a generic tool that was developed by Wilson and Ciliska to better understand and measure the lifestyle of their patients. The lifestyle survey complements the assessment of health-related physical fitness and allows a more complete view of the individual. The scale has 25 items divided into 9 domains: family and friends, physical activity, nutrition, cigarettes and drugs, alcohol, sleep, seat belt, stress and safe sex, type of behavior, introspection and work and satisfaction with the profession. The sum of all points makes it possible to reach a total score that classifies individuals into five categories, which are: "Excellent" (85 to 100 points) – indicates that the lifestyle provides great influence on health, "Very good" (70 to 84 points) – indicates that the lifestyle provides adequate influence on health, "Good" (55 to 69 points) – points out that lifestyle provides many health benefits, "Regular" (35 to 54 points) – points out that lifestyle provides some benefit to health and "Needs to improve" (0 to 34 points) – indicates that lifestyle has many risk factors. It is desirable for individuals to achieve the classification "Good". The lower the score, the greater the need for change.[17]

The Hospital Anxiety and Depression Scale (HAD) is designed to detect mild degrees of affective disorders in non-psychiatric settings. It was translated and adapted to Portuguese by Botega and collaborators, with its original version by Zigmond and Snaith. It has 14 multiple-choice questions, seven of which are aimed at assessing anxiety and seven for depression, which can be quickly completed. Each of its items can be scored from zero to three, making up a maximum score of 21 points for each subscale. The score and classification, if greater than or equal to nine, indicates anxiety and/or depression.[18]

Finally, the Holmes-Rahe Social Readjustment Rating Scale, composed of 43 items, prepared by psychologists Thomas Holmes and Richard Rahe. According to them, when a person faces a challenge (positive or negative), he/she invests physical and psychological energy in action to be able to adapt to new or unexpected situations and, in a period of twelve months, if he/she expends more adaptive energy than his/her limits physical and psychic allow, stress worsens, changing phases, thus increasing his/her chances of falling ill. The final score is obtained by adding the identified events. Scores less than 150 show that there is a small chance that the individual will fall ill (37%), between

150 to 299 points there is a 51% reasonable chance of falling ill and, in a sum greater than 300 points, there is a strong probability that the individual will fall ill (79%).[19]

The study variables were presented using absolute and relative frequencies. The association between Burnout (dependent variable) and other variables (independent) was assessed using the chi-square test or Fisher's exact test, with a significance level of 5%.

The regression analysis was divided into two stages. In the first stage, sociodemographic variables were inserted into the model. The selection of this step was performed through the "stepwise" procedure using the "Forward" method, using Wald's statistic as the criterion for choosing the variables. The second step consists of adding the related variables of the Scales to the model adjusted in the first step. From the final model obtained, the corresponding Odds ratio of the model was calculated with a 95% Confidence Interval.

## RESULTS

The sample consisted of 282 health professionals with an average age of 40 years (SD±9.4), mostly characterized by: women (79.1%), married or with partners (52.1%), with children (66.3%). As for education, 61.3% have high school and 38.7% higher education. Considering the profession, 16% were nurses, 73.4% nursing technicians and 10.6% doctors. The working time ranged from 1 to 35 years, with a median of 1 and the average was 10 years (SD±8.2).

As for the characteristics related to the health of professionals, 55% do not practice regular physical activity, the average number of hours of sleep per night was 6.2h (SD±1.3), 41.1% reported some health problem, 13.8% use psychotropic drugs, 49.3% use psychostimulants, 58.2% use anti-inflammatories and 37.6% reported being away from work in the last year.

Burnout was identified in 13.2% of the sample. However, considering the 282 professionals who participated in the study, it was evidenced that 30.5% had a high level of emotional exhaustion, 25.2% a high level of depersonalization and 61.3% a low personal fulfillment.

Considering the three instruments that measure stress, but in a different way, it was observed that 24.5% of the participants suffered early stress, 46.5% had symptoms of current stress and, according to the phases that make up the General Adaptation Syndrome of Seyle, 3.8% are in the alert phase, 82.5% in the resistance phase and 13.7 in the exhaustion phase. Still on current stress, 28.2% had physical symptoms, 64.2% psychological symptoms and 7.6% both symptoms. Only 9.3% of the participants perceived the stress they were experiencing.

Considering the other variables, 42.6% had a lifestyle considered to be very good, however, considering the significant events of life, 37.9% had a strong chance of falling ill.

There was statistical evidence of an association between Burnout and the following variables: education, early stress, stress symptoms, stress phase, type of symptoms, perception of stress, common mental disorder, lifestyle, anxiety and depression, as described in Table 1.

Statistically associated with Burnout, in the final regression model, the type of service (p=0.032; OR: 0.187; 95% CI: 0.291-1.363), education (p=0.029; OR: 2.313; 95% CI: 1.090- 4.908), perception of stress (p=0.037; OR: 1.67; 95% CI: 1.004-1.134) and social readjustment (p=0.031; OR: 0.279; 95% CI: 0.088-0.888), as shown in Table 2.

**Table 1 –** Tests of association between the outcome variable (Burnout) and the independent variables. Ribeirão Preto, SP, Brazil. (n=282)

| Variable | | Has no Burnout | Has Burnout | Pearson Chi-Square |
|---|---|---|---|---|
| Education | Without higher education | 158 (91.3%) | 15 (8.7%) | 0.046* |
| | With higher education | 91 (83.5%) | 18 (16.5%) | |
| Early Stress | No | 193 (90.6%) | 20 (9.4%) | 0.034* |
| | Yes | 56 (81.2%) | 13 (18.8%) | |
| Stress Symptoms | No | 144 (95.4%) | 7 (4.6%) | 0.000* |
| | Yes | 105 (80.2%) | 26 (19.8%) | |
| Stress Phase | No symptoms of stress | 144 (95.4%) | 7 (4.6%) | 0.001* |
| | Alert | 4 (80.0%) | 1 (20.0) | |
| | Resistance | 87 (80.6%) | 21 (19.4%) | |
| | Almost exhaustion | 14 (77.8%) | 4 (22.2%) | |
| Type of symptoms | No symptoms of stress | 144 (95.4%) | 7 (4.6%) | 0.000* |
| | Physical | 33 (89.2%) | 4 (10.8%) | |
| | Psychological | 65 (77.4%) | 19 (22.6%) | |
| | Physical and psychological | 7 (70.0%) | 3 (30.0%) | |
| Perception of stress | | 249 (88.3%) | 33 (11.7%) | 0.000* |
| Common Mental Disorder | No | 167 (95.4%) | 8 (4.6%) | 0.000* |
| | Yes | 82 (76.6%) | 25 (23.4%) | |
| Lifestyle | Regular | 18 (56.3%) | 14 (43.8%) | 0.000* |
| | Good | 94 (86.2%) | 15 (13.8%) | |
| | Very good | 116 (96.7%) | 4 (3.3%) | |
| | Excellent | 21 (100.0%) | 0 | |
| Anxiety | No | 171 (94.0%) | 11 (6.0%) | 0.000* |
| | Yes | 78 (78.0%) | 22 (22.0%) | |
| Depression | No | 188 (92.2%) | 16 (7.8%) | 0.001* |
| | Yes | 61 (78.2%) | 17 (21.8%) | |

*p<0.05

**Table 2 –** Logistic regression analysis between the outcome variable (Burnout) and the independent variables. Ribeirão Preto, SP, Brazil, 2016. (n=282)

| Variable | P value | OR | IC 95% |
|---|---|---|---|
| ***Type of service*** | | | |
| Hospital | 0.083 | | |
| Mobile | 0.032* | 0.187 | 0.040 – 0.869 |
| Pre-hospital | 0.241 | 0.630 | 0.291 – 1.363 |
| ***Education*** | 0.029* | 2.313 | 1.090 – 4.908 |
| ***Perception of Stress*** | 0.037* | 1.67 | 1.004 – 1.134 |
| ***Social Readjustment*** | | | |
| Small chances of falling ill | 0.091 | | |
| Reasonable chances of falling ill | 0.031* | 0.279 | 0.088 – 0.888 |
| Strong chances of falling ill | 0.109 | 0.410 | 0.138 – 1.221 |

*p<0.05

## DISCUSSION

It was possible to identify the association between Burnout and some variables such as education, early stress, current stress, common mental disorders, lifestyle, anxiety and depression. In addition, it was shown that some variables can influence the development of Burnout: type of service, education, perception of stress and social readjustment.

The prevalence of Burnout identified in this study was 13.2%. In the literature, there are lower prevalence, ranging from 5.7% to 10.7%, as can be seen. Mata and collaborators[20] found a prevalence of 5.7% in a sample of 434 Portuguese health professionals. In the study by Monteiro *et al*[21], 6.5% was the prevalence among Brazilian health professionals in a sample of 29 participants. Another lower prevalence, of 6.7%, was found among a sample of 269 Brazilian health professionals.[22]

It is worth mentioning that emotional exhaustion is considered the initial characteristic of Burnout Syndrome, and in this study, it was present in 30.5% of the participants at a high level, that is, it can manifest itself physically, psychically or in a combination of both.

The depersonalization dimension, 25.2% in this study, occurs in circumstances where the professional presents a negative behavior, usually accompanied by anxiety, irritability, demotivation and reduction of work goals, conflicts with the team and leadership.[7] An individual with a high level of depersonalization will normally present a detachment from his/her customers and denial of feelings.

Finally, 61.3% had low personal fulfillment, indicating feelings of low self-esteem, dissatisfaction with their activities and demotivation, which may cause a desire to abandon the profession. Low personal fulfillment with work can be considered a predictive symptom of great relevance in terms of suspicion of Burnout Syndrome.[7]

Considering Burnout as a multidimensional variable, it is important to highlight that, for its development, it is necessary to consider other variables, both individual and work. In this study, individual and work variables were mentioned as intervening variables, and it was found that there was statistical evidence of an association between Burnout and the variables: education, early stress, current stress (symptoms, phase and type), perception of stress, common mental disorders, lifestyle, anxiety and depression.

The individual characteristics alone do not lead to the development of the syndrome. However, they can act as enhancers or protectors of the action of stressors that are present in the context of work.

Education is a variable well known in scientific literature, both nationally and internationally, for being associated with Burnout. The higher the level of education, the greater the likelihood of developing Burnout Syndrome.[23–24]

In this study, it was shown that having a higher education degree can represent twice as much chance of developing Burnout. Probably, among the health professionals of the investigated emergency services, the higher level of education can be related to greater responsibilities and expectations.

Authors point out that, if there is more education, there has been greater professional investment, and the individual will develop greater expectations about his/her work context.[24] In addition, the responsibility is greater when compared to professionals who perform operational tasks. It is also noteworthy that there may be discrepancies between professional expectations and work reality and thus promote the development of the syndrome.

The association between Burnout and early stress evidenced in this study was not found in the literature. There are no studies that have evaluated these phenomena together. However, it should be noted that from a psychodynamic point of view, as developing beings, children are more susceptible to trauma and primary care is essential for the psychic structuring and acquisition of affective regulation skills, reflective capacity and autonomy.[25–26]

When traumatic experiences and serious failures in early relationships occur, there may be interruptions or changes in the course of healthy development, leading to a lack of confidence in objects and a decrease in psychological resources. Thus, the individual may become more vulnerable to psychological suffering, as he/she will have a reduced capacity to represent his/her experiences symbolically.[25]

Changes in brain structure, cognitive functions and deficits in psychological functioning in general, are some of the consequences presented by individuals who were exposed to early stress, as suggested by the literature.[25–27]

As the adverse psychological consequences of early stress permeate the life cycle, there is evidence that children exposed to trauma, in adulthood will be at risk of developing varied clinical conditions, such as mood disorders, psychological disorders, post-traumatic stress disorder, suicidal and high-risk behaviors, marital violence and child abuse and personality disorders.[7,25–29]

Still on early stress, it was observed in this study that among the participants who suffered this type of trauma, the majority were women (55 participants) while men were less (14 participants), as already identified in the literature that abuses are more frequent among women.[27–28]

It is understood that the association between Burnout and early stress found in this study can be explained by the fact that people who suffered this type of trauma in childhood, unfortunately, may not develop effective coping strategies to deal with work stressors, and this later increases the chances of developing Burnout.[30]

It was observed that, in addition to early stress, Burnout was also associated with current stress, which is understandable considering that failure to cope with stress arises as the balance is broken, making suffering no longer manageable and thus, as a prolonged response the syndrome may develop.

Common mental disorders (CMD) were present in a significant number of participants and their association with Burnout was evidenced. According to the literature, it is quite common to find symptoms of mental suffering among health professionals and there are studies that corroborate this result.[31–32] Health professionals exposed to high psychological demands and low control at work can present twice as much chances of having mental distress.[32–33]

The association shown in this study can probably be explained by the fact that the manifestations of both occur by psychic symptoms. Furthermore, Burnout syndrome is composed of three dimensions, with emotional exhaustion being the main one, which reflects a state of emotional exhaustion in the face of the stressors experienced. Thus, the symptoms resulting from mental suffering may be an alternative for the manifestation of emotional exhaustion and vice-versa.

In this context, as the professional presents symptoms of mental suffering, characterized by symptoms of fatigue, insomnia, irritability, forgetfulness, difficulty in concentration and somatic complaints, he/she may also develop feelings of lack of energy, depletion of resources to deal with job stressors, frustration and tension. Adding both symptoms, they can intensify the mental strain of health professionals who assist patients in the urgency and emergency sectors.

There was statistical evidence of an association between Burnout and the variables anxiety and depression, which can be corroborated by the literature.[34] It should be noted that the daily work can trigger the development of anxiety and depression, thus compromising the health conditions of the professional, his/her quality of life and quality of care provided to users of health services.[35]

It is also important to note that health professionals are susceptible to mental health problems, with possible psychological distress inherent in the work environment.[36] Factors such as the presence of critically ill patients, living with suffering and death, pressure to take decisions, fear of making mistakes, overwork and, often, the lack of adequate service infrastructure, cause fears among

professionals, disrupting their performance and generating physical and emotional stress, such as anxiety and depression.[35]

The occurrence of anxiety can negatively influence the way the individual copes with daily stressors, and may be related to the use of ineffective strategies to cope with stress. When anxiety goes beyond the limits of normality, anxiety disorders arise, considered to be very common, but which cause suffering and important functional impairment, which can prevent the professional from functioning properly.[35]

From the same point of view, depression decreases cognitive ability and impairs the care provided to the patient. In addition, severe depression can be considered life threatening, especially if not diagnosed and treated. Furthermore, impairing the individual's ability to work and daily life such as withdrawal from social activities, loss of interest in professional activities, loss of pleasure in interpersonal relationships, feeling of guilt or self-depreciation, low self-esteem, hopelessness, altered appetite and sleep, feeling of lack of energy and difficulty in concentration.[35]

In contrast, the individual's lifestyle reflects directly on health. In this study, it was possible to confirm that the lifestyle was also associated with Burnout. Good nutrition, healthy habits, time for leisure and healthy social interactions can contribute to reducing tensions, thus reducing stress and maintaining health at work.[37]

On the other hand, the context of life can provide daily changes over which the person has no control and, often, not being able to deal with such changes can lead to illness. It was evident in this study that having reasonable chances of falling ill represents a protective factor against the development of the syndrome when compared to the strong chances of falling ill.

It is worth noting that the literature shows that the risk of illness is fundamentally associated with the work context, as they confirm that the health team's vulnerability to illness is linked to stressful factors in the work environment. Such factors correspond to physical and psychic demands, repetition of tasks, pressures and responsibilities, the need for constant attention, ergometric risks, the handling of materials at risk of exposure to contaminated fluids, wage dissatisfaction and recognition by peers.[38]

The sector in which the professional works can contribute to the development of Burnout.[39] Emergency services are sectors of constant suffering and with frequent losses, due to the care of people in serious health conditions where professionals need to act immediately. In this study, the service was divided into three types, mobile, pre-hospital and hospital.

The regression analyses showed that working in the mobile emergency service represents a protective factor when compared to the hospital service. This result can be explained by the fact that the closed sectors, in this case the hospital and pre-hospital emergency sectors, have high demands and intense work rhythms, which are different from the mobile service, which does not have this daily routine. The performance of health professionals in emergency units is evaluated as a trigger for stress and physical and emotional distress.[40]

Regarding the limitations of the study, it is necessary to emphasize the need to balance the sample in relation to gender, as the health workforce is made up of women and this composition can influence the results, as the literature has shown that the variable housework is an effect modifier. It would be convenient to expand the sample N in the next studies to corroborate the findings. The cross-sectional design also proves to be a limiting factor, because it makes it impossible to analyze causal relationships. Another limitation was working with a considerable number of scales; however, the instruments guaranteed the findings. On the one hand, it is important because in one collection it is possible to obtain a rich bank of data to consolidate new research hypotheses; however, it can cause some difficulty because the professional may fail to respond with attention from a certain moment and, in addition, it requires the collaboration of the administrative part of the service to encourage voluntary participation by professionals.

## CONCLUSION

In summary, this investigation found the correlation between Burnout and the type of service, education, perception of stress and social readjustment. In addition, Burnout was associated with the variables stress, education, mental suffering, social readjustment, anxiety and depression. In addition, results showed a significant number of professionals who work in emergency services and are already affected by the Burnout Syndrome. These findings reveal the need to monitor the behavior of professionals, according to the manifestations that are characteristic of each dimension of the syndrome to prevent the triggering of Burnout.

It is noteworthy that the results refer to professionals who are active in their functions, it is important to consider that those most affected regularly are on sick leave because they are unable to remain active in their jobs.

In addition, it is observed that, for the professional, it is easier to be absent from work due to a physical symptom, than due to a complaint of emotional exhaustion related to work. In this sense, there may be an underreporting of illness and sick leave due to the subjectivity of symptoms and social support when it comes to the afflictions caused by Burnout.

Knowing the variables that may be mediating the syndrome's development process is essential to outline a profile of the most vulnerable professional, and prevention strategies. This study points to a profile made up of emergency services professionals, with higher education, who suffered early stress in childhood, who have symptoms and perception of stress, who do not have a healthy lifestyle and have common mental disorders, including symptoms of anxiety and depression.

The results of this study can assist service managers in the development and implementation of strategies to reduce work stress and consequently decrease the prevalence of Burnout syndrome.

## REFERENCES


1. Marôco J, Marôco AL, Leite E, Bastos C, Vazão MJ, Campos J. Burnout in Portuguese Healthcare Professionals: An Analysis at the Natinal Level. Acta Med Port [Internet]. 2016 [cited 2018 Jan 05];29(1):24-30. Available from: https://www.actamedicaportuguesa.com/revista/index.php/amp/article/viewFile/6460/4534
2. Michelin SR, Nitschke RG, Martini JG, Tholi AD, Souza LCSL, Henckimaier L. (Re)cognizing healthcare center workers' routine: a path for burnout prevetion and health promotion. Texto Contexto Enferm [Internet]. 2018 [cited 2019 Aug 20];27(1):e5510015. Available from: https://doi.org/10.1590/0104-07072018005510015
3. Zanatta AB, Lucca SR. Prevalência da síndrome de Burnout em profissionais da saúde de um hospital oncohemetológico infantil. Rev Esc Enferm USP [Internet]. 2015 [cited 2018 Jan 05];49(2):253-60. Available from: https://doi.org/10.1590/S0080-623420150000200010
4. Schaufeli WB, Maslach C, Marek T. Professional Burnout: recent developments in theory and research. London (UK): Routledge, 2018.
5. Silva MI, Pérez RCG, González MC, Ratto A. Prevalence of burnout syndrome and sociodemographic factors in a group of teachers in Montevideo. Ciencias Psicológicas [Internet]. 2015 [cited 2018 Jan 05];9(1):55-62. Available from: http://www.scielo.edu.uy/pdf/cp/v9n1/v9n1a06.pdf
6. Pereira SS, Teixeira CAB, Reisdorfer E, Gherardi-Donato ECS, Juruena MF, Cardoso L. Burnout in nursing professionals: associations with early stress, British J Mental Health Nurs [Internet]. 2015 [cited 2018 Jan 05];4(6):267-75. Available from: https://doi.org/10.12968/bjmh.2015.4.6.267

7. Oliveira EB, Gallasch CH, Silva PPA Junior, Oliveira AVR, Valério RL, Dias LBS. Occupational stress and Burnout in nurses of an emergency service: the organization of work, Rev Enferm UERJ [Internet]. 2017 [cited 2018 Jan 05];25:e28842. Available from: https://doi.org/10.12957/reuerj.2017.28842

8. Bakker A, Demerouti E, Sanz-Vergel A. Burnout and work engagement: The JD-R Approach. Annual Reviews [Internet]. 2014 [cited 2018 Mar 11];1:389-441. Available from: https://doi.org/10.1146/annurev-orgpsych-031413-091235

9. Fornés-Vives J, García-Banda G, Frias-Navarro D, Pascual-Soler M. Longitudinal study predicting burnout in Spanish nurses: The role of neuroticism and emotional coping. Pers Individ Dif [Internet]. 2019 [cited 2018 Mar 11];138:286-91. Available from: https://doi.org/10.1016/j.paid.2018.10.014

10. O desgaste profissional do enfermeiro [tese].[Salamanca, ES]: Universidade Pontifícia de Salamanca; 1995.

11. Maslach C, Jackson SE, Leiter MP. Maslach Burnout Inventory Manual. 3rd ed. California: Mind Garden; 2010.

12. Grassi-Oliveira R, Stein LM, Pezzi JC. Tradução e validação de conteúdo da versão em português do Childhood Trauma Questionnaire, Rev Saúde Pública. [Internet]. 2006 [cited 2018 Mar 11];40(2):249-55. Available from: https://doi.org/10.1590/S0034-89102006000200010

13. Lipp MEN. Manual do Inventário de Sintomas de Stress para Adultos de Lipp (ISSL). São Paulo SP(BR): Casa do Psicólogo; 2000.

14. Luft CB, Sanches SO, Mazo GZ, Andrade A. Brazilian versión of the Perceived Stress Scale: translation and validation for the elderly. Rev Saúde Pública [Internet]. 2007 [cited 2018 Mar 11];41(4):606-715. Available from: https://doi.org/10.1590/S0034-89102007000400015

15. Nascimento IL, Duarte LC, Moraes TD. Saúde dos psicólogos em centros de referência de assistência social. Rev Psicol Organ Trab [Internet]. 2018 [cited 2019 Aug 20];18(2):373-80. Available from: https://doi.org/10.17652/rpot/2018.2.14004

16. Santos KOB, Carvalho FM, Araújo TM. Consistência interna do self-reporting questionnaire-20 em grupos ocupacionais. Rev Saúde Pública [Inernet]. 2016 [cited 2019 Aug 20];50:6. Available from: https://doi.org/10.1590/S1518-8787.2016050006100

17. Bodega NJ, Bio MR, Zomignani MA, Garcia JC, Pereira WAB. Mood disorders among medical in-patients: a validation study of the hospital anxiety and depression scale (HAD). Rev Saúde Pública [Internet]. 1995 [cited 2019 Aug 20];29(5):355-63. Available from: https://doi.org/10.1590/S0034-89101995000500004

18. Holmes TH, Rahe RH. The Social Readjustment Rating Scale. J Psychosom Res [Internet]. 1967 [cited 2018 Mar 11];11(2):213-8. Available from: https://doi.org/10.1016/0022-3999(67)90010-4

19. Mata C, Machado S, Moutinho A, Alexandra D. Estudo PreSBurn: prevalência de síndroma de burnout nos profissionais dos cuidados de saúde primários. Rev. Port Med Geral Farm [Internet]. 2016 [cited 2019 Aug 20];32:179-96. Available from: http://www.scielo.mec.pt/pdf/rpmgf/v32n3/v32n3a04.pdf

20. Monteiro JK, Grisa GH, Sobrosa GMR, Rodrigues MLA. Fatores associados à Síndrome de Burnout em profissionais que tratam da saúde da mulher. IMED. [Internet]. 2016 [cited 2019 Jul 20];8(1):3-13. Available from: https://seer.imed.edu.br/index.php/revistapsico/article/view/1208/880

21. Dal Pai D, Lautert L, Souza SBC, Marziale MHP, Tavares JP. Violence, burnout and minor psychiatric disorders in hospital work. Rev Esc Enferm USP [Internet]. 2015 [cited 2019 Jul 20];49(3):457-64. Available from: https://doi.org/10.1590/S0080-623420150000300014

22. Morais AJ, Teles CB, Rocha LF, Silveira MF, Pinho L. Síndrome de burnout em médicos de estratégia saúde da família de Montes Claros, MG e fatores associados. Rev Bras Med Comunidade [Internet]. 2018 [cited 2019 Jul 20];13(40):1-15. Available from: https://www.rbmfc.org.br/rbmfc/article/view/1751/917

23. Monteiro JK, Carlotto MS. Preditores da Síndrome de Burnout em trabalhadores da saúde no contexto hospitalar. Interação Psicol [Internet]. 2014 [cited 2019 Aug 20];18(3):287-95. Available from: https://doi.org/10.5380/psi.v18i3.28024

24. Carr CP, Martins CM, Stingel AM, Lemgruber VB, Juruena MF. The role of earlylife stress in adult psychiatric disorders: a systematic review according to childhood trauma subtypes. J Nerv Ment Dis [Internet]. 2013 [cited 2019 Aug 20];201(12):1007–20. Available from: https://doi.org/10.1097/NMD.0000000000000049

25. Waikamp V, Serralta FB. Repercussions of trauma in childhood in psychopathology of adult life. Ciênci Psicol [Internet]. 2018 [cited 2019 Aug 20];12(1):137-44. Available from: https://doi.org/10.22235/cp.v12i1.1603

26. Garland C. Abordagens psicodinâmica do paciente traumatizado. In: Eizirik CL, Aguiar RW, Schestatsky SS, eds. Psicoterapia de orientação analítica: fundamentos teóricos e clínicos. 3rd ed. Porto Alegre, RS(BR): Artmed; 2015.

27. Li M, D'arcy C, Meng X. Maltreatment in childhood substantially increases the risk of adult depression and anxiety in prospective cohort studies: systematic review, meta-analysis, and proportional attributable fractions. Psyc Med [Internet]. 2016 [cited 2019 Jul 20];46(4):717-30. Available from: https://doi.org/10.1017/S0033291715002743.

28. Catalan A, Angosto V, Valverde C, Artaza MG, Sesma E, Gonzales-Torres MA. Relation between psychotic symptoms, parental care and childhood trauma in severe mental disorders, Psychiatry Res [Internet]. 2017 [cited 2019 Feb 10];251:78-84. Available from: https://doi.org/10.1016/j.psychres.2017.02.017

29. Isvoranu A, Van Borkilo CD, Boyette LL, Wigman JT, Vinkers CH, Borsboom D. A network approach to psychosis: pathways between childhood trauma and psychotic symptoms. Schizophr Bull [Internet]. 2017 [cited 2019 Aug 20];43(1):187-96. Available from: https://doi.org/10.1093/schbul/sbw055

30. Silveira SLM, Câmara SG, Amazarray MR. Preditores da síndrome de burnout em profissionais da saúde na atenção básica de Porto Alegre/RS. Cad Saúde Colet [Internet]. 2014 [cited 2019 Feb 10];22(4):386-92. Available from: https://doi.org/10.1590/1414-462X201400040012

31. Silva JLL, Soares RS, Costa FS, Ramos DS, Lima FB, Teixeira LR. Fatores psicossociais e prevalência da síndrome de burnout entre trabalhadores de enfermagem intensivistas. Rev Bras Ter Intensiva [Internet]. 2015 [cited 2019 Aug 20];27(2):125-33. Available from: https://doi.org/10.5935/0103-507X.20150023

32. Rodrigues EP, Rodrigues US, Oliveira LMM, Laudano RCS, Sobrinho CLN. Prevalence of common mental disorders in nursing workers at a hospital of Bahia. Rev Bras Enferm [Internet]. 2014 [cited 2019 Feb 10];67(2):296-301. Available from: http://www.scielo.br/pdf/reben/v67n2/0034-7167-reben-67-02-0296.pdf

33. Cavalcanti IL, Lima FLT, Souza TA, Silva MJS. Burnout and depression in residents of a multi-professional program in oncololy: a longitudinal prospective study. Rev Bras Educ Med [Internet]. 2018 [cited 2019 Aug 20];42(1):185-96. Available from: https://doi.org/10.1590/1981-52712018v42n1rb20170078

34. Portela NLC, Pedrosa AO, Cunha JDS, Monte LRS, Gomes RNS, Lago EC. Síndrome de burnout em profissionais de enfermagem de serviços de urgência e emergência. J Res Fundam Care [Internet]. 2015 [cited 2019 Feb 10];7(3):2749-60. Available from: https://doi.org/10.9789/2175-5361.2015.v7i3.2749-2760

35. Gonsalez EG, Lourenção LG, Teixeira PR, Rotta DS, Gazetta CE, Pinto MH. Ansiedade e depressão entre profissionais de programas de aprimoramento profissional. Rev Port Enferm S Ment [Internet]. 2017 [cited 2019 Aug 20];18:51-8. Available from: https://doi.org/10.19131/rpesm.0192

36. Gomes RK, Oliveira VB. Depressão, ansiedade e suporte-social em profissionais de enfermagem. Bol Psicol [Internet]. 2013 [cited 2019 Feb 10];63(138):023-033. Available from: http://pepsic.bvsalud.org/pdf/bolpsi/v63n138/v63n138a04.pdf

37. Azevedo BDS, Nery AA, Cardoso JP. Estresse ocupacional e insatisfação com a qualidade de vida no trabalho da enfermagem. Texto Contexto Enferm [Internet]. 2017 [cited 2019 Apr 18];26(1):e3940015. Available from: https://doi.org/10.1590/0104-07072017003940015

38. Sousa KHJF, Zeitoune RCG, Portela LF, Tracera GMP, Moraes KG, Figueiró RFS. Fatores associados aos riscos de adoeciemento da equipe de enfermagem no trabalho em instiruição psiquiátrica. Rev Latino-Am Enfermagem [Internet]. 2020 [cited 2019 Apr 18];28:e3235. Available from: http://www.scielo.br/pdf/rlae/v28/pt_0104-1169-rlae-28-e3235.pdf

39. Pereira SS, Silva PMC, Azevedo EB, Faustino EB, Araújo ZMN, Ferreira Filha MO. Sindrome de Burnout em profissionais de enfermagem de um hospital de urgência/emergência. Revista Unincor. [Internet]. 2014 [cited 2019 Apr 18];12(1):636-47. Available from: https://doi.org/10.5892/ruvrd.v12i1.1408

40. Silveira MM, Stumm EMF, Kirchner RM. Estressores e coping: enfermeiros de uma unidade de emergência hospitalar. Rev Eletr Enf [Internet]. 2019 [cited 2019 Apr 18];11(4):894-903. Available from: http://www.fen.ufg.br/revista/v11/n4/v11n4a15.htm

## NOTES

### ORIGIN OF THE ARTICLE
Extracted from the dissertation/thesis – Mediators variables of Burnout in emergency services professionals: applicability of Maslach Burnout Inventory - Human Services Survey (MBI-HSS), presented to the Programa de Pós-Graduação Enfermagem Psiquiátrica, from the *Universidade de São Paulo*, in 2017.

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### APPROVAL OF ETHICS COMMITTEE IN RESEARCH
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No conflict of interest.



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