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The Prevalence of Burnout Syndrome Among Emergency Department Nurses

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Abstract: ***Introduction***. *Burnout syndrome is a manifestation of chronic stress characterized by emotional, mental and physical exhaustion, caused by occupational stressors and is represented by three dimensions: emotional exhaustion, depersonalization and decreased personal performance.The COVID-19 pandemic had a major impact on the medical system, with a psychological impact on the medical staff. This emotional and physical exhaustion is also found among nurses.*
Material and methods. *We studied a total of 112 participants receiving 80 valid questionnaires. This was a descriptive, cross-sectional study of the medical staff within the UPU-SMURD section of the County Emergency Clinical Hospital "St. Ap. Andrei"Galați, who is in the front line in the fight against coronavirus.After signing an informed consent, the participants completed a socio-demographic questionnaire and the MBI-HSS (MP) questionnaire to assess their level of burnout.*
Results. *The aim of our study was to identify the prevalence of burnout syndrome among emergency department nurses in the context of the Covid-19 pandemic.The study found that 46.2% of nurses suffer from an average level of burnout, and only 32.5% suffer from a high level.Also, emotional exhaustion is directly proportional to professional experience and age.*
Conclusions. *The prevalence of burnout syndrome is high, with most front-line nurses suffering from moderate to severe burnout.*

Keywords: *burnout, nurses, emotional exhaustion, emergency.*

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1. Introduction

Burnout syndrome, stemming from prolonged stress in the workplace, signifies a condition of thorough depletion that involves emotional, physical, and mental aspects (Moscu et al, 2023). The emergence of this phenomenon is connected to multiple factors related to one's professional environment. Recognizing burnout syndrome is centered on three key elements: emotional exhaustion, depersonalization, and a noticeable decrease in individual performance (Maslach & Leiter, 2016; Khammissa et al, 2022; Silistraru et al, 2022).

The most recent research findings suggest that the medical system has been affected by the COVID-19 pandemic, which has led to psychological consequences for medical professionals who provide complex care in a particularly tense environment. (Bauchner& Sharfstein, 2020; Grigoras & Ciubara, 2021; Hu et al, 2023).

At first, the professional exhaustion within the medical field was assigned to doctors, subsequently it was extended to other professional categories, the frequency of the burnout syndrome being high among the medical staff (Ganguli et al, 2019; Beauregard et al, 2018). Although the studies show that the burnout syndrome influence the medical staff regardless of the specialization, higher ratios occur within: emergency unit, intensive care, oncology, gynecology, infectious diseases, family physicians (Gualano et al, 2021; Wu et al, 2020; Dimitriu et al, 2020; Firew et al, 2020; Fumis et al, 2022).

Work-related exhaustion in the Emergency Departments (ED) is generated by repeated exposure to traumatic events, caring of the high complexity patients the necessity to make fast and critical decisions without complete information, lack of savior's and patient's safety, theneed of high professional performance (Chavez et al, 2020; Silistraru et al, 2021).

The pandemic of Covid-19 added factors that generate burnout for nurses, fear concerning the virus, taking care of the patients infected with a SARS CoV-2, wearing the safety equipment a long time, strict compliance with the disinfection procedures, bureaucracy and increased admissions of patients with psychological aspects related to drug or alcohol use. (Molina-Praena et al, 2018; Dragomir et al, 2023).

Nurses experiencing high levels of burnout often experience emotional exhaustion at the end of their shift due to an imbalance between workload and available occupational resources. This imbalance makes it difficult for them to address the social and emotional needs of both family members and patients. (Salvarani et al, 2019, Moscu et al, 2023).

2. Research approach

2.1. Study design and protocole

A total of 112 questionnaires were disseminated among medical assistants working in the emergency department. Only 80 questionnaires were eligible for inclusion in the study following the application of inclusion and exclusion criteria. The answering ratio was 71,42%.

The survey was anonymous, having instructions regarding the fill-in of the social and demographic data and of the questionnaire, and also a written consent knowingly about the attendance to the study.

The study was conducted to describe and compare the medical staff in the UPU-SMURD department of the County Clinic Emergency Hospital 'Sf. Ap. Andrei" Galaţi, that is in the first line in the fight against the corona virus, ensuring the non-COVID-19 emergencies and also assessing the suspect patients until the result of real-time detection chain polymerization reaction test is ready (RT-PCR SARS-CoV-2).

The data collection took place in January 2022. The included categories were nurses from the emergency department and from prehospital emergency care. Inclusion Criteria: Registered nurses actively working in the emergency department. The study cannot be conducted if questionnaire submissions are incomplete and participants do not provide consent.

The investigation adhered to the principles outlined in the World Medical Association Declaration of Helsinki and received approval from the local Bioethics commission and hospital management.

Our research was directed towards evaluating the effect of the COVID-19 pandemic on the potential development of burnout risk among frontline nurses at Galati County Hospital. Through this study, we aim to make an additional contribution to existing research (Silistraru et al, 2023; Moscu et al, 2022).

2.2. Instrument

For the evaluation of burnout syndrome, we employed the Maslach Burnout Inventory - Human Services for Medical Personnel, developed by Christina Maslach and Susan E. Jackson in 1981. The instrument has 22 items and is categorised into three scales: emotional exhaustion (9 items), depersonalization (5 items), and decreased personal achievement (8 items) (Maslach et al, 1977). Each item receives a Likert type answer regarding how frequently does the attendant experiment these "feelings" (Maslach et al, 2018; Qin et al, 2023).

The score is determined by calculating the sum of points for each scale. Thus, the emotional exhaustion has a high level at a value of minimum 28, the depersonalization at minimum 19, while the professional achievements are decreased for a lower or equal with 31. Per total, it is considered a high level of burnout at a score over 75 points.

The collected social and demographic data are represented by age, sex, marital status, experience of the workplace, working hours and the number of patients cared for on a given day.

2.3. Data assessment

The recorded data were organized in a sampling list, from which summary tables were subsequently generated. The conclusive data analysis was conducted using IBM SPSS Statistics version 26.0 and Microsoft Excel 2007, with significance considered at the $P<0.05$ level and a confidence interval of 95%. Descriptive statistics and correlations involving all study variables were performed, along with the calculation of the prevalence of a high level of burnout syndrome (Sen & Yildirin, 2022).

3. Results and discussions

Concerning the socio-professional attributes of the investigated cohort, the majority of nurses were female (74%). The mean age of the sample was 37.7 years, coupled with an average professional tenure of 8.8 years. The nurses, on average, devoted 44.7 hours per week to their duties and attended to 26.6 patients during each shift. The distribution depending on the sex was 74% women and 26% men **(Chart 1).**

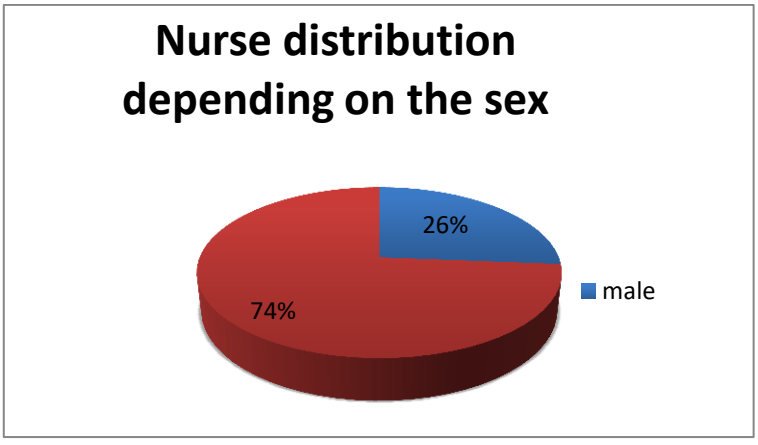


Chart 1. Nurse distribution in the emergency department depending on the sex
Source: authors' personal data

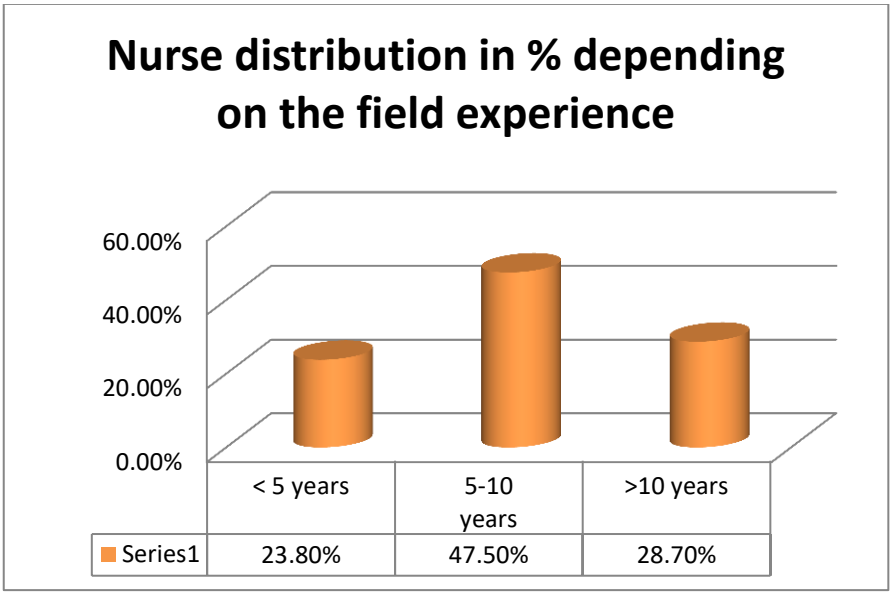


Chart 2. Nurse distribution depending on the field experience
Source: authors' personal data

More than, 69% of the attendants are over 35 years, 23,8% have a lower than 5 years field experience, and only 36.3% of the attendants have university studies. **(chart 2)**

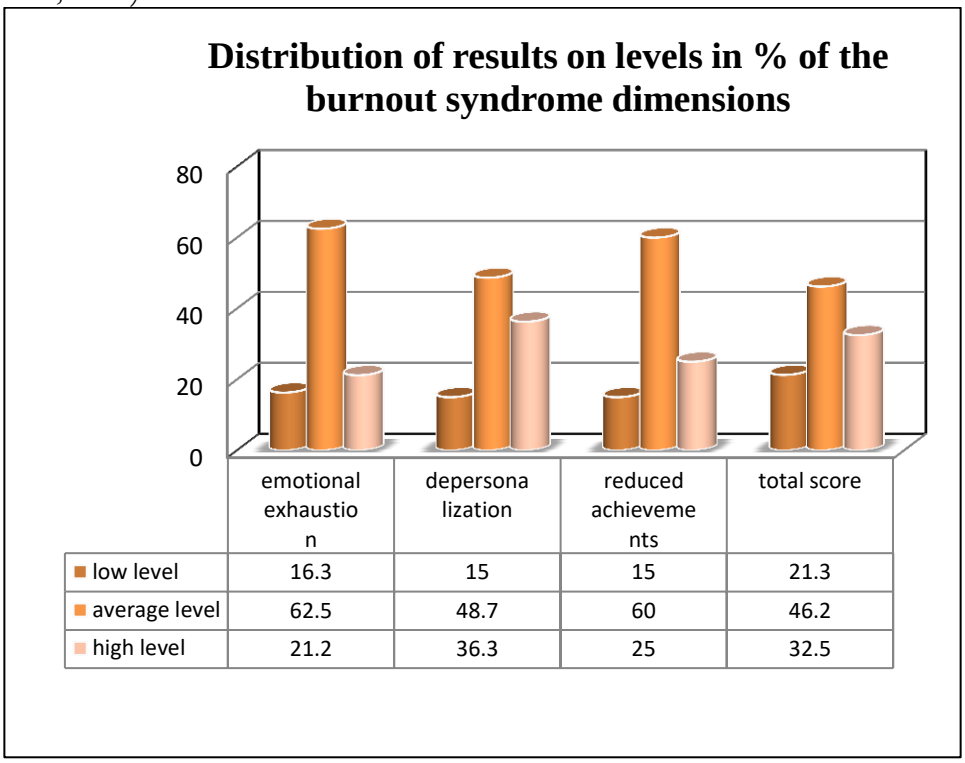
According to the findings, nurses working in the emergency department experience a moderate level of burnout syndrome. Since the onset of the COVID-19 pandemic in Romania, only 32.5% (n=26) of emergency department nurses exhibit a high level of burnout, while 46.2% display a moderate level of burnout. These results are consistent with other findings in the literature. Galanis and collaborators report that there is a prevalence of burnout risk among nurses globally of 31.4% and this is coupled with a notable degree of job dissatisfaction (Galanis et al, 2021; Galanis et al, 2023).

Subsequently, we conducted a descriptive analysis of the MBI-HSS (MP) scales. Specifically, emotional exhaustion (EE) exhibited a mean of 23.5 points with a standard deviation of 7.76, depersonalization (DP) demonstrated a mean of 17.8 points with a standard deviation of 6.29, and the reduced personal achievement scale (RR) displayed an average value of 27.2 points with a standard deviation of 8.69. All these values surpass the upper threshold of the average level of burnout (EE=19-27; DP=13-18; RR=21-30). In this case, it can be asserted that the burnout syndrome

exhibited among nurses in the emergency department reaches a level ranging from moderate to severe. **(chart 3).**

The collected data show a high prevalence of burnout at the nurses from the first line, with similar values in the field literature (Nobre et al, 2019;França& De Martino, 2014).

The global prevalence of burnout syndrome among nurses is widely agreed upon by numerous researchers. Emphasizing the crucial stress factor for healthcare professionals, which is the significant impact of the COVID-19 pandemic (Portero de la Cruz et al, 2020; González-Gil et al, 2021; Woo et al, 2020).



	emotional exhaustion	depersonalization	reduced achievements	total score
low level	16.3	15	15	21.3
average level	62.5	48.7	60	46.2
high level	21.2	36.3	25	32.5

Chart 3. Distribution of results on levels in % of burnout syndrome dimensions
Source: authors' personal data

We conducted Pearson correlations between the scales of the MBI-HSS(MP) and the overall exhaustion score. Significant correlations were obtained between all variables, the most important correlation was observed in case of emotional exhaustion with the total burnout score (r_p=.921; $p<0.001$). (**table 1)**

Table 1. Pearson correlation: MBI-HSS(MP) scales and total scor					
N=80		EE	DP	RR	Total scor
Total scor	Pearson Correlation	.921**	.910**	.892**	1
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: authors' personal data

This study did not reveal any connection between burnout risk and gender, education level, working hours, or patient care. Nevertheless, a notable correlation emerged between the dimensions of burnout syndrome and professional experience, indicating that nurses with over 5 years of experience exhibit heightened emotional exhaustion and a diminished sense of professional achievement. Interestingly, the level of depersonalization is lower among those with more extensive experience in the field.**(table 2)**

Keeping a proper mental health needs important resources, that is why the approach of emotional exhaustion through psychoactive intervention at individual and organizational levels is important (Friganović et al, 2019).

Certain studies revealed that the more experienced medical staff can manage successfully the stressful periods and feel safe at work (Cardoso Portela et al, 2015; Ferreira et al, 2017).

Table 2. The variation of the average score of the MBI-HSS(MP) scales correlated with professional experience		
	Experience < 5 years	Experience > 5 years
Average value of emotional exhaustion	20.1	25.6
Average value of depersonalization	23.5	18.6
Average value of of reduced achievement	15.4	28.4

Source: authors' personal data

In the case of the age variable, the results are as follows: – 25-35 years, the average value of emotional exhaustion scale (EE) 21.1 points, for depersonalization (DP) 15.9 points, reduced achievements 24.5 points; - 36-53 years, the average value of emotional exhaustion scale (EE) 25.1 points, for depersonalization (DP) 19.1 points, reduced achievements 28.8 points (**table 3).** Higher scores are seen at all the components fo the burnout

syndrome for the age 36-53 years, which corresponds to data found in literature (Gómez-Urquiza et al, 2017).

Table 3. The variation of the average values of burnout syndrome scales correlated with professional experience

	Age 25-35 years	Age 36-53 years
Average value of emotional exhaustion	21.1	25.1
Average value of depersonalization	15.9	19.1
Average value of of reduced achievement	24.5	28.8

Source: authors' personal data

The results of this study proves the need to implement strategies of psychoactive interventions at individual level and at organizational one, that would lead to a decrease of the burnout level.

4. Conclusions

In this study, we highlighted that one out of three assistants has an increased risk of presenting professional burnout. The increased experience in the field and the decrease in professional achievements can influence both the physical and emotional health of health workers. The results of this study proves that the emotional exhaustion scale, the most critical scale, contributes the most to total exhaustion. Opposite to specialists, advanced age and increased field experience are not protective factors against burnout.

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