

Emotional Exhaustion and Professional Satisfaction During Covid-19 Pandemic at the Level of Emergency Department Staff

Cosmina-Alina MOSCU¹,
Mihaela ANGHELE²,
Liliana DRAGOMIR³, Sorina
MUNTEANU⁴, Aurelian ANGHELE⁵,
Aurel NECHITA⁶, Anamaria
CIUBARĂ⁷

¹MD, PhD Student, Faculty of Medicine and Pharmacy, “Dunarea de Jos” University of Galati, , 35 A.I.Cuza Street, RO 800216, Galati, Romania; cosmina_caluian@yahoo.com

²MD, PhD Student, Faculty of Medicine and Pharmacy, “Dunarea de Jos” University of Galati, , 35 A.I.Cuza Street, RO 800216, Galati, Romania; anghele.mihaela@yahoo.com

³MD, PhD Student, Faculty of Medicine and Pharmacy, “Dunarea de Jos” University of Galati, , 35 A.I.Cuza Street, RO 800216, Galati, Romania; pletea.lili@yahoo.com

⁴MD, PhD Student, Faculty of Medicine and Pharmacy, “Dunarea de Jos” University of Galati, , 35 A.I.Cuza Street, RO 800216, Galati, Romania; sorinancoleta.munteanu@yahoo.com

⁵MD, PhD Student, Faculty of Medicine and Pharmacy, “Dunarea de Jos” University of Galati, , 35 A.I.Cuza Street, RO 800216, Galati, Romania; aurelian.anghele@ugal.ro

⁶MD, PhD, Hab. Professor, Faculty of Medicine and Pharmacy, “Dunarea de Jos” University of Galati, , 35 A.I.Cuza Street, RO 800216, Galati, Romania; aurel.nechita@ugal.ro

⁷MD PhD, Hab. Professor at Head of Psychiatry Department, Senior Psychiatrist, Faculty of Medicine and Pharmacy, “Dunarea de Jos” University of Galati, 35 A.I.Cuza Street, RO 800216, Galati, Romania; anamburlea@yahoo.com

Abstract: *Introduction: Burnout is a syndrome conceptualized as result of the chronic stress at the work place which was not successfully managed. The possible negative effects on the medical staff, the patients and the health institutions have generated interest and motivated the research to understand the possible causes, these effects also influence the burnout predictors. The medical services suppliers within the emergency department have had one of the greatest exhaustion occurrences even before the pandemic. Being in the first line in contact with the suspected patients or confirmed with COVID-19 infection intensifies this fact. Both the working factors (working hours, years of practice, number of treated patients, professional development activities) and the socio- demographic factors (age, sex, civil status, income, education) are associated with the exhaustion at the work place.*

Material and methods: I have studied a total of 120 participants, receiving 115 valid questionnaires, the answering ratio being 95,83%. This was a descriptive, multicentre, transversal study of the medical and the auxiliary staff within the department UPU-SMURD of the County Clinic Emergency Hospital “Sf. Ap. Andrei” Galați. The staff gave their consent and attended a combined interview which consisted of a pilot questionnaire and a demographic questionnaire.

Results and discussions: The average score of exhaustion at the staff level was 3.25, a great percentage of the doctors within the ED (45.8%), (n=24) indicates an increased level of exhaustion, only 26.8% (n=80) of nurses show an increased level of exhaustion.

The average score of the stress level shown by the staff is 3.1, 66.6% (n=24) among which the doctors with an increased stress level 9.1% (n=9) auxiliary staff, 23.8% (n=80) of nurses.

Conclusions: The results show us a high exhaustion, stress and depression ratio at the emergency doctors in comparison with the other professional categories within the ED. A high level of professional satisfaction is accompanied by an increased level of stress and of self-esteem.

Keywords: *emergency medicine, professional exhaustion, stress, empathy, professional environment.*

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1. Introduction

According to the last revision of the International Classification of Diseases (WHO, n.d.), the concept of burnout is included as professional phenomenon. This is described in the chapter: "Factors that influence the health or the contact with the health services" – that includes the reasons for which people reach the health services, but are not classified as diseases or health affections (WHO, n.d.).

Burnout is a syndrome conceptualized as result of the chronic stress at the work place which was not successfully managed.

The three dimensions of this result are an overwhelming exhaustion, cynicism and detachment sentiments at the work place, and an inefficiency and lack of accomplishment sentiment. The signification of this tridimensional pattern is that it places clearly the individual stress experience in a social context and it involves the person's conception of himself or of the others (Maslach & Leiter, 2016). The burnout concept relates specifically to the phenomena in professional context (Sandu et al., 2020) and should not be applied to describe the experiences in other life domains (WHO, n.d.).

The possible negative effects on the medical staff, the patients and the health institutions have generated interest and motivated the research to understand the possible causes, these effects also influence the burnout predictors (Schooley et al., 2016).

The medical services suppliers within the emergency department have had one of the greatest exhaustion occurrences even before the pandemic (Lin et al., 2019; Schooley et al., 2016; Verougstraete & Idrissi, 2020; Sandu, 2020a). The professional exhaustion in the Emergency Department (ED) was associated with the need to make critical decisions, without complete information, the repeated exposure to traumatic events (Diac et al., 2021), the high complexity of the disease combined with the necessity to make fast decisions, the interests regarding the litigation risk, and also the pressure concerning the work quality, the patient's safety and the performance (Peckham, 2017).

Being in the first line in contact with the suspected patients or confirmed with COVID-19 infection intensifies this fact (Chavez et al., 2021; Luca, Baroiu et al., 2020).

The peculiarity of the medical act within the emergency department is strongly manifested due to a wide range of psycho-traumatic factors, increased both by the patient's vulnerable status and by the paroxysmal

status of the medical act. Also, within the emergency medicine field it was recognized that the level of physical stress is the highest of all the other medical fields (Popa et al., 2010).

Both the working factors (working hours, years of practice, number of treated patients, professional development activities) and the socio-demographic factors (age, sex, civil status, income, education) (Sandu & Nistor 2020) are associated with the exhaustion at the work place (Luca, Ciubara et al., 2020; Madhavappallil & Kohli, 2014; Panagopoulou et al., 2006; Sandu, 2020b; 2020c; Senter et al., 2010).

The purpose of this study is to better understand the relationship between these factors and the professional exhaustion.

Our assumption is that different professional categories within the emergency department will show various levels of exhaustion, of professional satisfaction and of emotion management. More specific, the level of exhaustion will be different among the emergency doctors, the nurses and the auxiliary staff working in the same emergency department.

2. Materials and methods

2.1. Study population and study protocol

We have studied a total of 120 participants, receiving 115 valid questionnaires, the answering ratio being 95,83%. This was a descriptive, multicentre, transversal study of the medical and the auxiliary staff within the department UPU-SMURD of the County Clinic Emergency Hospital “Sf. Ap. Andrei” Galați. The professional categories included were the doctors with training in Emergency Medicine field, nurses working in the emergency department and in the pre-hospital and the auxiliary staff of the department: porters and orderlies (**tabel 3**).

A face-to-face interview method was used to collect data from each employee, and the participants have generated identification codes to insure the anonymity. The interviews were made in November 2020. There were no other foreclosure criteria.

2.2. Instruments

The participants gave their consent (Sandu, 2020d) and attended a combined interview which consisted of a pilot questionnaire and a demographic questionnaire. The investigation instrument was divided in 2 parts. The first part consisted of questions regarding the socio-demographic information, opened and close to the age, sex, civil status, professional category, working experience, working hours, education level, the number of

patients. The second part consisted of 10 questions concerning the exhaustion level, highlighting the stress generating professional elements, the relationship with the people around them and emotions management in the professional activity within the emergency department during the pandemic.

To assess the level of professional satisfaction two questions were used: 'How do you assess the level of professional satisfaction in your institution?' and 'Are you pleased by the present safety equipment and devices needed to carry out your activity?' the answers being quantified on a range from 1 to 5, '1' for 'very displeased' and '5' for 'very pleased'. The level of empathy, stress, exhaustion and of self esteem were assessed with the help of a single corresponding item, for example 'How often do you feel affected by your patients' health status?' quantified on a range from 1 to 5, '1' for 'very rarely' and '5' for 'very often'. The relationship with the family / the team work and the emotional exhaustion were measured with other two sets of questions, for example 'Regarding the pandemic evolution, how would you describe the near future?' or 'Do you consider that your work influences the time spent with your family in a negative way?'. At the end the participants have noted what elements enhance their professional exhaustion.

This tool was conceived instead of the multiple-choice questionnaires in order to shorten the survey material and to increase the answering ratio at the medical staff.

2.3. Data analysis

The registered data have been listed in sampling lists and then summary tables were made. The final analysis of the data was made in IBM SPSS Statistics version 20.0 and Microsoft Excel 2007, and the significance was considered at level $P < 0.05$ and a confidence interval of 95%

3. Results and discussions

The average age of the staff working in the ED is 38 years old with a deviation standard of 6.68 years, which confirms that the emergency medicine is a field of the 'youth'. Assessing the sample depending on the professional experience, it is seen that the average value is 8.8 years. The values deviate from the average upwards or downwards with 5.68 years.

The average number of working hours per week of the staff in ED is 49,19 hours with a deviation standard of 13.11 hours. The distribution of the number of working hours per week of each professional category shows that the doctors work an average of 68.45 hours per week, with a maximum of 100 hours per week (**Table 1**). According to studies, the increased number

of working hours is an exhaustion element at the work place. (Ashton-James et al., 2021; Basu et al., 2016),

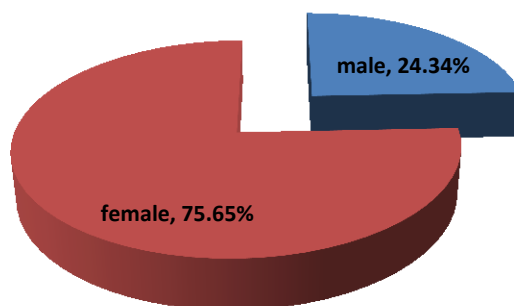
Table 1. The distribution of the working hours /week of the ED staff a DU

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	N	Minimum	Maximum	Average	Std. Deviation
Hours week ED staff	115	30.00	100.00	49.1913	13.11614
Hours week nurses	80	35	48	44.7125	4.31129
Hours week doctors	24	30	100	68.4583	16.68371

Source: Authors' own conception

The distribution of the ED staff depending on the sex was 75.7% for female and 24.3% for male (**Graph 1**). The distribution of the ED staff depending on the civil status (**Graph 2**) shows that the majority of the medical and auxiliary staff is married (76%), single 17%, and divorced 7%.

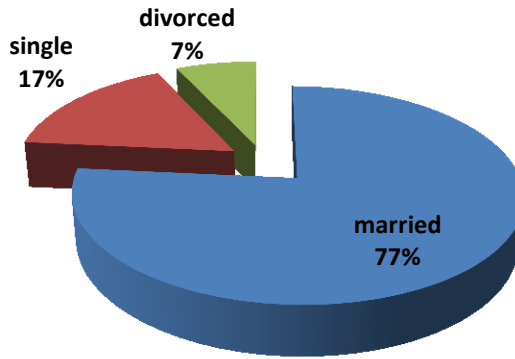
The distribution of the ED staff depending on the sex



Graph 1. The distribution of the ED staff depending on the sex

Source: Authors' own conception

The distribution of ED staff depending on the civil status



Graph 2. The distribution of the ED staff depending on the civil status
Source: Authors' own conception

The average number of patients on a shift in the care of ED staff is 27.31 patients with a standard deviation of 12.65 patients. The distribution of the number of patients on the shift of each professional category shows that the doctors are responsible for more patients than the other professional categories. (Table 2).

Table 2. The distribution of patients in the care of ED staff

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	N	Minimum	Maximum	Average	Std. Deviation
Patients / shift ED staff	115	10	70	27.31	12.65
Patients / shift nurses	80	10	60	25.68	11.59
Patients / shift doctors	24	11	70	31.08	13.48

Source: Authors' own conception

The professional categories from the ED are represented by doctors having training in the emergency medicine field, nurses and the auxiliary staff consisting of porters and orderlies. The distribution of the studied staff

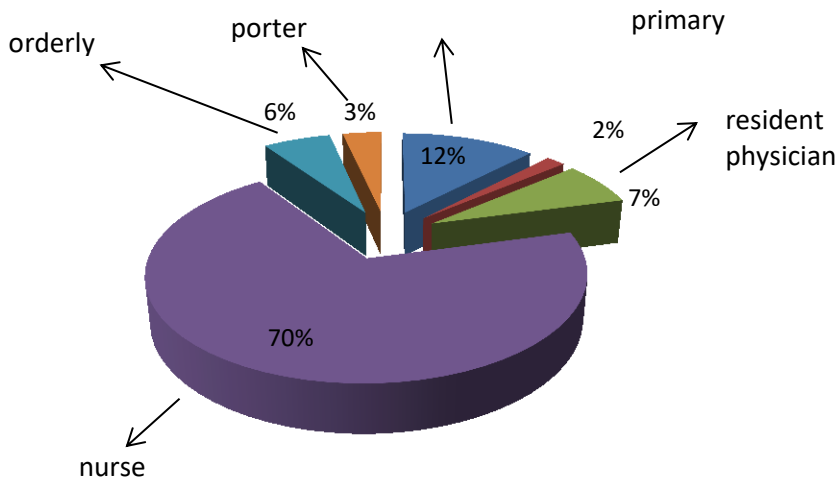
depending on their professional category presents a high coverage for nurses and auxiliary staff related to their prevalence within the system (**Graph 3**).

Table 3. Distribution of ER staff depending on the professional category

Table 3. Distribution of ER staff depending on the professional category		Frequency	Percent
	Consultant	14	12.2%
	Primary physician	2	1.7%
	Resident physician	8	7.0%
	nurse	80	69.6%
	orderly	7	6.1%
	porter	4	3.5%
	Total	115	100.0%

Source: Authors' own conception

The distribution of ED staff depending on the professional category



Graph 3. The distribution of the ED staff depending on the professional category
 Source: Authors' own conception

The average score of exhaustion of the staff was 3.25, a high percent of the ED doctors (45.8%)(n=24) show an increased level of exhaustion,

only 26.8%(n=80) of the nurses show an increased level of exhaustion. The average level of stress of the staff is 3.1, 66.6% (n=24) doctors show a high level of stress, 9.1% (n=9) auxiliary staff, 23.8% (n=80) of nurses. The average score of depression of the staff is 2, 25% among which the emergency medicine doctors show a high level of depression, the auxiliary staff 18.2% and the nurses 32,5% (**Table 4**).

Table 4. The average scores of the exhaustion, stress, depression scales depending on the professional categories

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	Doctors	Nurses	Auxiliary staff
exhaustion	4.20	2.93	3.45
stress	3.79	2.95	2.72
depression	2.12	2.02	1.54

Source: Authors' own conception

The results indicate a high ratio of exhaustion, stress and depression at the emergency medicine doctors in comparison with the other professional categories within the ED. Thus, our theory that the various professional categories within the emergency department will present different levels of exhaustion, professional satisfaction and emotions management is confirmed.

Table 5. The distribution of the correlations between stress, professional satisfaction, patients / shift, self esteem at doctors

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		Patients _shift	Stress _doctors	Satisfaction _doctors	Esteem
Patients _shift	Pearson Correlation	1	.429*	-.052	.257
	Sig. (2- tailed)		.037	.808	.226
	N	24	24	24	24
Stress _doctors	Pearson Correlation	.429*	1	-.412*	.246
	Sig. (2- tailed)	.037		.045	.246
	N	24	24	24	24

Satisfaction _doctors	Pearson Correlation	-.052	-.412*	1	-.427*
	Sig. (2- tailed)	.808	.045		.037
	N	24	24	24	24
Esteem	Pearson Correlation	.257	.246	-.427*	1
	Sig. (2- tailed)	.226	.246	.037	
	N	24	24	24	24

*, Correlation is significant at the 0.05 level (2-tailed).

Source: Authors' own conception

The results of the lot of doctors were not correlated to age, sex, civil status or experience, in exchange it was identified through analysis of bivariate correlation, based upon the Pearson correlation coefficient, an indirect connection of average intensity and significance between the two variables was seen $r = -0.412$, $n = 24$, $p < 0,05$. Thus, a high level of stress is accompanied by a high level of professional satisfaction. Also, a correlation between the stress level and the number of patients to take care of on a shift was identified $r=0.42$, $n=24$, $p<0.05$. The correlation between the professional satisfaction and the esteem $r=-0.427$, $n=24$, $p<0.05$ at a high level of satisfaction, the self esteem is influenced to a small extent. (Table 5)

Table 6. The distribution of the correlation between the working hours and the depression level of the nurses

Table 6. The distribution of the correlation between the working hours and the depression level of the nurses			
		Depression _nurses	Working _hours
Depression _nurses	Pearson Correlation	1	.267*
	Sig. (2-tailed)		.017
	N	80	80
Working _hours	Pearson Correlation	.267*	1
	Sig. (2-tailed)	.017	
	N	80	80

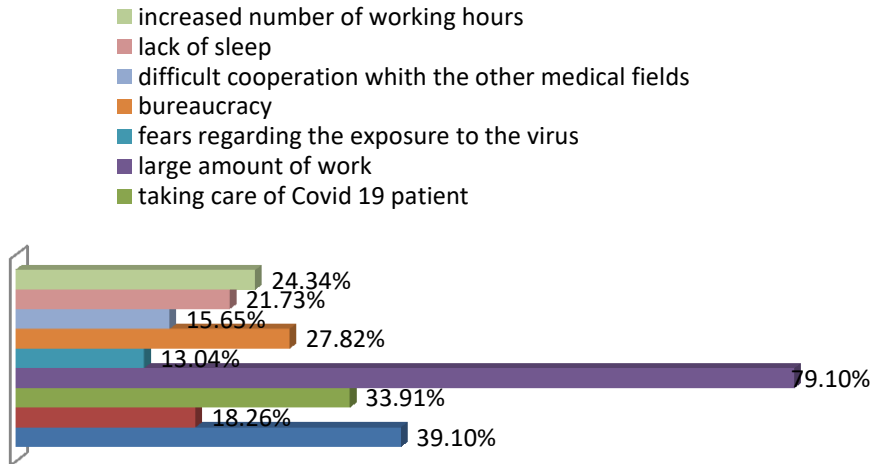
*, Correlation is significant at the 0.05 level (2-tailed).

Source: Authors' own conception

The results of the lot of nurses were not correlated to age, sex, civil status or experience, in exchange it was identified through analysis of bivariate correlation, based upon the Pearson correlation coefficient, an indirect connection of average intensity and significance between the two variables was seen, $r = 0.267$, $n = 80$, $p < 0,05$. The level of depression is in correlation with the working hours (**Table 6**).

The factors associated with the increase of the professional exhaustion for the studied group are represented by: the large amount of work (79.10%), the lack of respect manifested by the patients (39.10%), taking care of Covid-19 patients (33.91), bureaucracy (27.82%), the lack of respect manifested by the colleagues (18.26%), fears regarding the exposure to the virus (13.04%) and the difficult cooperation with the other medical fields / medical units (15.65%). Other connected were the lack of sleep elements (21.73%) and the increased number of working hours (24.34%) (**Graph 4**).

Factors contributing at exhaustion

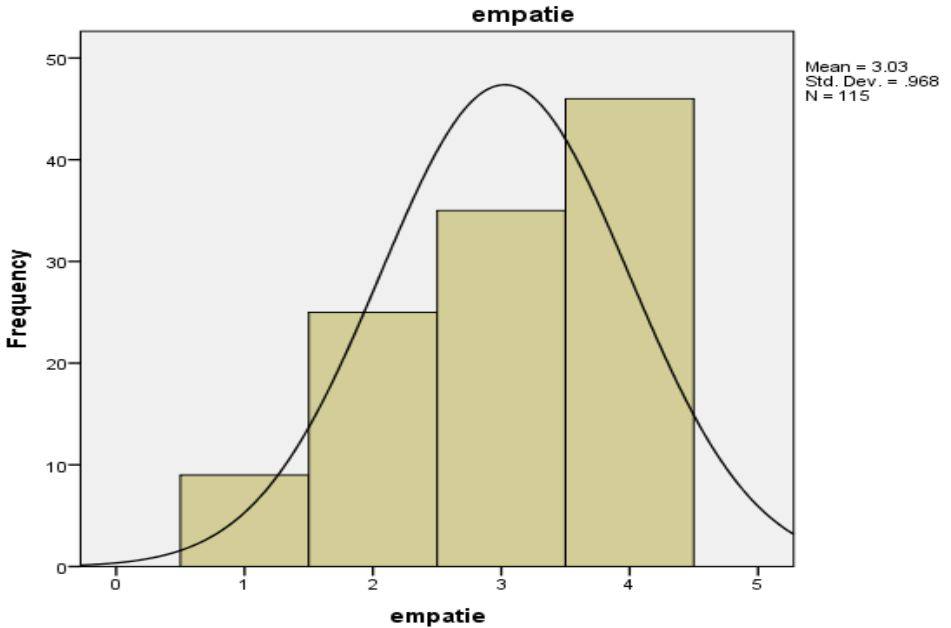


Graph 4. Factors that contribute to professional exhaustion of the ED medical staff

Source: Authors' own conception

Even if the large amount of work, the bureaucracy and taking care of the patients infected with Covid-19 are important elements of exhaustion for

the ED staff, the possible influence of other factors should not be underestimated. Here must be included both the relationship with the managers and the colleagues and the degree of appreciation they receive for the decisions made at the work place and how are they seen by the others at the work place. (Hoboubi et al., 2017).



Graph 5. The histogram corresponding to the empathy levels of the ED medical staff

Source: Authors' own conception

The statistical analysis was continued with the determination of the empathy level of the ED staff. At the studied lot an average level of empathy 3.03 was seen with a standard deviation of 0.96. The histogram corresponding to the empathy levels shows a distribution curve with normal aspect Gaussian, deviated toward right, which means a high level of empathy towards the patients (**Graph 5**).

4. Conclusions

The results indicate a high ratio of exhaustion, stress and depression at the emergency medicine doctors in comparison with the other professional categories within the ED. Thus, our theory that the various professional categories within the emergency department will present

different levels of exhaustion, professional satisfaction and emotions management is confirmed.

A high level of professional satisfaction is accompanied by a high level of stress and self esteem. The level of depression is in correlation with the working hours. The bureaucracy, the large amount of work, taking care of the patients infected with SARS CoV-2 and also the factors connected with interpersonal relationships are associated with exacerbation of emotional exhaustion of the emergency department medical staff during the pandemic. Nevertheless the level of empathy towards the patients is increased.

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