

BURNOUT AMONG THE HEALTHCARE PROFESSIONALS FROM THE PETROȘANI EMERGENCY HOSPITAL

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ABSTRACT: *The paper deals with the occurrence and manifestation of the Burnout Syndrome (BOS) in the healthcare services field. Following the general view presentation on the phenomenon both in Romania and worldwide, we employed the Maslach Burnout Inventory in order to perform a quantitative research among professionals from the Emergency Hospital in Petrosani (EHP). We aimed at assessing the three dimensions of the burnout syndrome – emotional exhaustion, depersonalisation and the decrease of professional achievements - as well as investigating several connections among the dimensions of the burnout syndrome and other explicative dependent variables, such as the category of healthcare professionals, their length of service and the compartments individuals who took part in the empirical research belonged to. The study showed that the most prone to the appearance and manifestation of the BOS are the physicians and nurses that work at the health units dealing with critical care or paediatrics as well as at the wards dealing with serious issues, such as: increased mortality rates, lack of the time required to meet completely the needs of the patients, improper work conditions, inability deriving from the impossibility to contribute to the total recovery of the patients etc. At the same time, the medical staff at the EHP proved that it efficiently managed occupational stress with the accumulation of increased professional experience, this tendency determining an improvement effect that contributes to the decrease of the risk of developing the BOS syndrome.*

KEYWORDS: *burnout syndrome, decrease of personal achievements, depersonalisation, emotional exhaustion, healthcare professionals.*

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1. INTRODUCTION

Nowadays, changes that could hardly be predicted five or six years ago come out on the labour market: artificial intelligence and digitalization radically modify the way of working in most industries, the progress of knowledge is extremely rapid, the need for updating knowledge becomes permanent. The new scientific discoveries as well as the challenges we have to face day by day at our jobs help us develop ourselves but also determine the increase of the standards for attaining the objectives proposed, either on a personal level or on a social or professional level.

These competence levels, in continual growth, exert a significant impact on our mental health, increasing the prevalence of a series of illnesses connected with our job activity, such as the burnout syndrome (BOS). The burnout condition has been identified in the literature as affecting various domains of activity where the professionals share certain common characteristics, such as: constant

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confrontation with high demands and interaction with individuals displaying special physical and emotional needs. It is obvious that, due to the particularities of the work environment, burnout prevalence among the health care professionals is higher in comparison with other fields of activity. The preoccupation that regards the factors associated with burnout in the case of healthcare professionals is frequently encountered in the literature. The researches published until now show a series of labour-connected factors that are susceptible to determine burnout: the lack of balance between professional life and private life, the preoccupations linked to the health condition of the patients, health specialisations (it is well-known that emergency medicine, for instance, is much more exposed to this phenomenon than other medical domains), professional training, length of service and experience etc.

The correct identification of the potential factors that might determine stress reactivity may be considered a method for risk prediction, a form of prophylaxis, and, in the case of severe burnout, a form to reduce psychological tension. In the health system, the permanent reassessment of the stress factors requires an increased attention, while the social aspects of burnout are permanently open for research.

In accordance with a study carried out by the British researchers in 2019, about 80% of the physicians were identified as displaying a high burnout risk (Corlade-Andrei et al., 2022). The data from the literature show a two times higher suicide risk among physicians, as compared with the general population, in the United States of America (Anderson, 2018).

Relying on the aspects previously mentioned, this study carries out an empirical research on the emergence and manifestation of the BOS among the healthcare professionals at the Emergency Hospital in Petrosani. Engaging a sample of 100 individuals that work at this health unit, our research aims at measuring the magnitude and severity of the BOS, by means of *Maslach Burnout Inventory* instrument, an international reference standard for assessing burnout. Due to the fact that the data that represent the fundamentals of the research are displayed as interval-type data and the data distribution has a symmetric nature, we employ parametric methods for the statistical analysis of the data (ANOVA and MANOVA analyses, as well as Spearman correlation coefficient).

Further on, the study is structured as follows: the next section sets forth a brief analysis of the literature on the issue of the BOS' occurrence among the health professionals and the factors that determine the high levels of this phenomenon, the third section details the methodology of the quantitative research based on questionnaires as well as the goals and hypotheses of our research, while section four exhibits the results of the descriptive, variation and correlational analyses to confirm or invalidate the hypotheses of the study. In the final section of the present paper, we display the conclusions of the research and make a few recommendations based on these conclusions.

2. LITERATURE REVIEW

Burnout syndrome (BOS) is defined as a long-term exhaustion experience decreasing the interest for labour. It comes out as a result of a period during which the amount of the job effort of an employee significantly exceeds the employee's time for rest and recovery.

BOS, as a result of a long-term professional stress, was described for the first time by Freudenberger, in his research upon the burnout of the voluntary staff in a health clinic offering free services. Freudenberger is credited with the merit of having coined the term *burnout*. In addition, the same author also described the characteristics of professional exhaustion, entailing the coming out of a series of physical and behavioural symptoms, such as: frustration, anxiety, suspicion and paranoia with regard to the influences exerted by the colleagues upon one's personal career objectives, excessive rigidity and inflexibility, and the actual manifesting of certain features that are specific to those individuals suffering from depression (Bianchi et al., 2018; Bridgeman et al., 2018). Freudenberger described those individuals prone to burnout as being dutiful and extremely involved

in the activity of the organisation. Nonetheless, it is as important to acknowledge that the BOS is not an acute illness, but rather a highlight of the effects professional responsibilities and work environment exert on the mental health of the employees (Bianchi et al., 2015; Khammissa et al., 2022).

BOS represents a psychological syndrome characterised by: the *emotional exhaustion* or *mental fatigue* of the employees (EE), *depersonalisation* (DP) or *cynicism* (manifested through negative feelings in relation with the person with whom the employee enters into contact at job), and *decrease of professional achievements* (DPA) – phenomena that come out as a result of the chronic professional stress. Recently, the World Health Organisation included burnout in the 21st version of the International Classification of Diseases – ICS 11 and defined it as a syndrome that derives from the improper management of work-related chronic stress (WHO, 2019). In accordance, exhaustion becomes a risk factor that is assessed and acknowledged for the workplaces belonging to various domains of activity.

Burnout is closely related with the amount of work responsibilities employees have to carry out, time pressure, role conflicts, poor social support, lack of feedback, restricted autonomy and decreased degree of participation in the decision-making process within the organisation (Chirico, 2016). Nonetheless, in accordance with the workplace stress models developed by Karasek and the models that take into consideration the imbalance between efforts and rewards for the predictions linked to the occurrence of the BOS, heavy workload and emotional stress, as well as a decreased level of control and insufficient rewards, represent the most important burnout risk factors (Țăranu et al., 2022; Magnavita & Chirico, 2020). A series of studies published in the literature show the existence of a correlation between the BOS and phenomena such as: absenteeism, job changing, appearance of mood disorders and errors' manifesting during the carrying out of job responsibilities (Adriaenssens et al., 2015). Beside these individual factors, the most recent researches demonstrate that organisational factors play a similarly important part in triggering the phenomenon of occupational stress and burnout in various fields of activity (Rodrigues et al., 2018; Chirico et al., 2021).

The workers in the field of healthcare are frequently susceptible to burnout, although important variations among different health units, measuring instruments or countries have occurred with regard to the prevalence of this syndrome. There are a series of studies that report higher levels of the frequency of occurrence of the phenomenon among nurses employed at emergency services or intensive care units, as a result of a high level of professional risk they have to face in their daily activity (Guillermo et al., 2015; Mercedes et al., 2020; Petrelli et al., 2018). Another risk factor that triggers the BOS is associated with the units that provide critical care for patients, due to the high mortality rates, improper work circumstances and limited time the healthcare professionals in the field have at their disposal to meet the complex needs of their patients (Elshaer et al., 2018; Masiero et al., 2018; Wang et al., 2020).

A recent analysis has documented the highest exhaust rates among nurses during the COVID-19 pandemics compared with the pre-pandemic period (Silistraru et al., 2024; Grigorescu et al., 2022). In addition, an empirical study that compared various health professionals (namely, health staff, auxiliary health staff and support staff) showed that nurses displayed the highest level of emotional exhaustion. Other comparisons between nurses and physicians support the fact that nurses are more prone to report burnout than physicians.

One of the most recent studies carried out by the *College of Physicians in Romania* regarding the prevalence of the burnout phenomenon among the professionals in the health field (2023) shows a series of interesting statistics (CMR, 2023). More than one third of the physicians that took part in the study (36%) displayed a high BOS risk level, the high scores are determined mainly by *emotional exhaustion*. In addition, the share of female physicians that displayed increased burnout risk levels is significantly higher than the score associated with male physicians (38% compared to 31%).

As far as the association between the BOS prevalence and age groups is concerned, statistic data show that the accumulation of professional experience with age represents an improvement element that contributes to the decrease of the burnout risk (CMR, 2023). Specialty groups associated with the highest BOS risk manifesting are, in accordance with the researches carried out by the *College of Physicians in Romania*, the following ones: I.C.U, oncology, paediatrics-internal medicine, and paediatrics-surgery.

At the same time, in the case of the physicians that, beside their clinical responsibilities, also have academic responsibilities in universities, the burnout risk factors become more specific within the categories of individual/organisational determinants (Popa-Velea et al., 2019). For instance, organisational factors might include, in such a case, excessive work hours, devaluation of didactic activity, improper classification within academic performance hierarchies, accumulation of management positions besides teaching activities, pressure linked to the requirement for publishing scientific articles, discontent that regarding the criteria used for measuring scientific performance, etc. In exchange, individual burnout determining factors might include, in the case of academic physicians, job frustration, imbalance between personal life and professional life or passive coping strategies (Holmes et al., 2017).

A series of personal characteristics, such as tenacity, optimism, resilience, adaptive coping style, social support, emotional intelligence and professional motivation (Han & Yin, 2016) are able to contribute to the BOS prevention or to the conceiving of a series of proper coping strategies for such individuals. Nonetheless, in order that noteworthy beneficial results are determined, such characteristics should be stimulated within a context of a competitive work climate among clinics and universities, equally. The magnitude of this process, which requires an early and systemic training, is not evenly distributed among countries and educational systems.

A review of the burnout literature identifies some relevant tools such as Boyko's Burnout Inventory (BBI), Copenhagen Burnout Inventory (CBI), Oldenburg Burnout Inventory (OLBI) and the Maslach Burnout Inventory (MBI) used for assessing a person's risk to experience burnout (Kotova et al., 2024; Ogunsuji et al., 2022; Todorovic et al., 2021). However, it is noteworthy that the MBI is the most widely utilized tool for self-evaluating an individual's potential risk of burnout (Messerotti et al., 2020), highlighting researchers' preference for this tool.

The Maslach Burnout Inventory (MBI) is a widely used psychological assessment tool introduced in 1981 by Christina Maslach and Susan E. Jackson, and it was gradually expanded to apply to various groups and contexts. There are three versions of the MBI: the Human Services Survey (MBI-HSS) for healthcare workers, the Educators Survey (MBI-ES) for teachers, and the General Survey (MBI-GS) for other occupations. Regardless of the version, the MBI allows for the separate evaluation of three key dimensions of burnout: Emotional Exhaustion, Depersonalization, and Personal Accomplishment. Based on the questionnaire responses rated on a scale from "never" to "daily," scores are calculated for each dimension and compared to determine the level of burnout. Five profiles can be identified based on these scores: Burnout (the most negative experience), Disengaged (characterized by high cynicism only), Overextended (high exhaustion only), Ineffective (high inefficacy only), and Engagement (the most positive) (Leiter & Maslach, 2016).

The MBI has been used in research across various professions (such as healthcare and education) with the aim of expanding knowledge on burnout and identifying strategies to improve employee well-being. Studies by Tung et al. (2023), Wannarit et al. (2023), Ayaslier et al. (2023), and Tang et al. (2022) are part of this effort, offering valuable insights into how the work environment has changed due to the COVID-19 pandemic. For Baugh et al. (2020), the objective of investigating burnout among healthcare workers was to propose a set of solutions focused on enhancing the experience and longevity in emergency medicine, based on the six categories of Maslach's burnout framework: workload, reward, control, fairness, community, and values. Other studies in the medical field, this time involving students as subjects using the MBI, include those by Qashqary et al. (2022),

AlShahrani et al. (2022), Alqifari et al. (2021), and Altannir et al. (2019). In fact, research on students is well-represented in studies examining burnout with the MBI (Valdés Castro et al., 2023; Aguayo-Estremera et al., 2023).

For some researchers, it is interesting not only to use the MBI for evaluating burnout but also to compare the results obtained from multiple validated burnout assessment tools. For example, Kotova et al. (2024) explored burnout using the Russian version of the MBI, adapted by N.E. Vodopyanova in the early 2000s (Vodopyanova & Starchenkova, 2023), and Boyko's Burnout Inventory (BBI). Over 32 years of prospective observation of 117 men aged 41–44 years, the authors noted a high similarity in measuring the severity of burnout. The results, which revealed multiple statistically significant relationships between the scales of the two questionnaires, led the authors to conclude that both MBI and BBI essentially evaluate the same construct, "even though they are based on different theoretical models and scale compositions," yielding generally consistent results. Previously, Oluwaseyi et al. (2022) administered the MBI, CBI, and OLBI questionnaires to 20 resident doctors from four different faculties of the West African College of Physicians and the West African College of Surgeons in Nigeria, with the findings also indicating the "reliability of the various tools for measuring burnout and the comparability of the CBI and OLBI to MBI-HSS."

3. METHODOLOGY

The purpose of quantitative research we carry out in this section of the paper is the assessment of the extent according to which the burnout syndrome is present among the health professionals of the Emergency Hospital in Petrosani, as well as the evaluation of the manner according to which burnout manifests in relation to the staff category, length of service and the health services provided by individuals included in the study.

The objectives of the research might be synthesized as follows:

1. Investigation of the *presence of the burnout syndrome among the health professionals* of the Emergency Hospital in Petrosani.
2. Assessment of the three dimensions of the burnout syndrome – *emotional exhaustion (EE)*; *depersonalisation (DP)*, and *decrease of professional achievements (DPA)*, according to *Maslach Burnout Inventory*.
3. Analysis of the *connections among the three dimensions of the burnout syndrome and the explicative dependent variables* - category of healthcare professionals, length of service and category of health services provided by individuals who took part in the empirical research.

As part of the empirical investigation that represents the object of this study, we estimate that the burnout syndrome healthcare professionals have to face manifests itself through three distinct components – emotional exhaustion, depersonalisation and decrease of personal achievements – which are influenced both by factors that are specific for the work environment and by a combination of individual factors. In the light of the above, we stated the following specific hypotheses:

1. *Hypothesis 1*: the average values of the scores recorded for the three BOS dimensions do not differ significantly depending on the categories of healthcare professionals analysed.
2. *Hypothesis 2*: the average values of the scores recorded for the three BOS dimensions do not differ significantly depending on the length of services tranches the respondents are included in.
3. *Hypothesis 3*: the average values of the scores recorded for the three BOS dimensions do not differ significantly depending on the category of health services provided by the respondents.

The sampling frame of the quantitative research in the field of the burnout syndrome includes the whole medical staff employed by the Emergency Hospital in Petrosani (physicians, nurses, psychologists and auxiliary health staff). To determine the survey sample size, a 95% confidence level was considered, indicating that 95 out of 100 random samples would represent the population values within the specified margin of error ($e = 5.00\%$). Given that the total number of medical staff

most susceptible to BOS at the Petrosani Emergency Hospital was 151, and the z-score for a 95% confidence level was 1.96, the sample size was calculated using the following formula:

$$(1) \quad n = \frac{\frac{z^2 \cdot p \cdot (1-p)}{e^2}}{1 + \left[\frac{z^2 \cdot p \cdot (1-p)}{e^2 \cdot N} \right]} = \frac{\frac{1.96^2 \cdot 0.5(1-0.5)}{0.05^2}}{1 + \left[\frac{1.96^2 \cdot 0.5(1-0.5)}{0.05^2 \cdot 151} \right]} = \frac{151}{108}$$

Taking into account the sample size, the collection of the data through operators would have been difficult, so the questionnaires were self-administered, through *Forms* application, provided by *Google Docs* platform. In accordance, the healthcare employees at the Emergency Hospital in Petrosani were distributed the questionnaire *link*, and the respondents had the opportunity to fill it directly in the *browser*, without need for authentication or installing an application. A similar approach was adopted by Appiah-Kubi (2024). The link of the questionnaire had been active for four weeks and during this period of time, all the 108 subjects submitted their responses. In the end, 8 of these questionnaires were excluded from the analysis as they were not considered valid (the subjects did not range within the categories of personnel targeted by the analysis). As a result, the final sample included 100 subjects.

The questionnaire that represented the foundation of the study included 30 questions, of which 25 questions represented the content of the instrument for measuring the burnout phenomenon conceived by researcher Christine Maslach (*Maslach Burnout Inventory*), while other 5 questions were included in the study in order to piece together the subjects' main characteristics. The questionnaire was accompanied by a short introduction that informed the respondents upon the objective and the importance of the research, while assuring them on the confidentiality of the data communicated. In addition, the participants in the research were informed in connection with the fact that there are no correct or wrong answers, the questionnaire sincerely assessing the feelings experienced by the respondents as the sole request of the research organisers. Also, the providing of the answers cannot be associated with psychological and social discomfort.

Maslach Burnout Inventory was structured in three parts and had as a goal the collection of data about the three burnout dimensions, by means of a Likert-type scale: *emotional exhaustion* (EE): *depersonalisation* (DP), and *decrease of personal achievements* (DPA). The subjects were required to browse the test in accordance with the following instructions: "In the case when you encountered quite rarely one of the feelings indicated, then specify this in the list of answers to position 1 (Quite rarely). In the case when those feelings were felt by you with different frequencies, then show how often this happened through marking off the figure that best matches the manifesting of those feelings: 2 (Rarely), 3 (Sometimes), 4 (Frequently), 5 (Quite frequently)".

In accordance with this instrument, *emotional exhaustion* represents the feeling of incapacity linked to the surmounting of a problematic situation, namely the feeling of exaggerated exhaustion felt both physically and psychically. *Depersonalisation* represents the deterioration of the professional ability to empathically communicate with the patients and their families. Generally, *depersonalisation* manifests through an indifferent behaviour in relation to the emotional requirements of the patients, which might be also considered ironic, cynical or unpleasant. The *decrease of personal achievements* regards the deterioration of the feeling of professional fulfilment, the coming out and manifesting of the feeling of futility, accompanied by the decrease of self-confidence, demotivation and fear of professional failure.

Table 1 shows the manner of determining the scores for each dimension – EE, DP, DPA – while table 2 shows the thresholds used for delineating the level of expression of the burnout syndrome indices.

Table 1. Burnout syndrome indices

Burnout syndrome indices	Assertion no.	Manner of calculation
<i>Emotional exhaustion (EE)</i>	1, 2, 3, <u>7</u> , 9, 15, 16, 18, 22	Determination of the points sum for each dimension, while calculating a score that is compared with the thresholds. The underlined items are scored inversely ("1"=5 points, "2"=4 points, "3"=3 points, "4"=2 points, "5"=1 points.
<i>Depersonalisation (DP)</i>	5, 11, 12, 17, <u>20</u> , 25	
<i>Decrease of personal achievements (DPA)</i>	4, 6, <u>8</u> , <u>10</u> , <u>13</u> , 14, <u>19</u> , <u>21</u> , <u>23</u> , 24	

Source: Adapted from Chiron, B., Michinov, E., Olivier-Chiron, E., Laffon, M., Rusch, E. (2010)

Table 2. Level of expression of Burnout syndrome indices

Burnout syndrome indices	Low level	Average level	High level
<i>Emotional exhaustion (EE)</i>	9-18	19-27	28-45
<i>Depersonalisation (DP)</i>	6-12	13-18	19-30
<i>Decrease of personal achievements (DPA)</i>	10-20	21-30	31-50
<i>Total score</i>	25-50	51-75	76-125

Source: Adapted from Grati, L. (2023)

In the case when one of the three indices manifests itself at a minimal level, it shows the lack of that dimension in the analysed sample. Also, in the case when the indicator is determined according to an average level, then one might consider that the dimension it refers to is incipient, while, in the case when the indicator is estimated at a high level, then the corresponding dimension is already formed and expressed. The statistic calculations carried out as part of the study used the SPSS (*Statistical Package for Social Sciences*) informatics software, version 23.

4. RESULTS AND DISCUSSION

The main social and demographic characteristics of the participants taking part in the research are shown in table 3.

47 physicians, 6 psychologists, 29 nurses and 18 individuals belonging to the category of auxiliary health staff took part in the research.

Table 3. Social and demographic characteristics of the individuals in the sample

Characteristics	Number of respondents	Percentage
<i>Category of personnel</i>		
Physicians	47	47%
Psychologists	6	6%
Nurses	29	29%
Auxiliary staff	18	18%
<i>Type of medical activity carried out</i>		
Emergency unit-SMURD	11	11%
RMFB	1	1%
Psychiatry	23	23%
Pulmonology	3	3%
Paediatrics	2	2%
ORL	3	3%
Oncology	1	1%

Characteristics	Number of respondents	Percentage
<i>Type of medical activity carried out</i>		
Obstetrics - Gynaecology	5	5%
Neurology	4	4%
Internal Medicine	8	8%
Surgery (general, thorax, plastic, urology, neurosurgery)	8	8%
Cardiology	3	3%
Infectious illnesses- AIDS	1	1%
ICU	4	4%
Others (Ophthalmology, Dermatology, Analyses Laboratory, Pathological Anatomy, Radiology, Operating Room)	23	23%
<i>Length of service tranche</i>		
0-10 years	34	34%
11-30 years	50	50%
31-45 years	16	16%

Source: authors' processing, by means of SPSS software

As far as the medical specialties are concerned, the sample covered all the categories that carry out activities in the Emergency Hospital of Petrosani, with a higher representation from the following wards: Psychiatry (23%), Emergency Unit - SMURD (11%), Internal Medicine (8%), Surgery (8%) and others (Ophthalmology, Dermatology, Analyses Laboratory, etc.) – 23%. A share of 50% of the participants own a length of service ranging between 11 and 30 years, while 34% own a length of service of less than 10 years. The members of the staff with higher length of service (31-45 years) represent only 16% of the total respondents included in the study.

Relying on the processing of the statistical data from the sample including 100 respondents belonging to the medical staff employed by the Emergency Hospital in Petrosani (EHP), we are going to analyse the three dimensions of the burnout syndrome, in accordance with the research instrument *Maslach Burnout Inventory*. Based on the answers given by the medical staff that took part in this research during the period March-April 2024, we got the graph in Figure 1.

Starting from the synthesis graph displayed in Figure 2, we are able to assert that *one quarter of the total medical staff at the EHP (25%) feel a high level of emotional exhaustion*. In addition, 42% of those who answered the questionnaire show this dimension of the burnout syndrome at an average level. In other words, at least 1/4 of the employees of the EHP in the medical domain feel the high level of professional exhaustion as a lack of energy required to carry out their professional responsibilities and are also aware that the amount of the resources they own is not adequate and/or sufficient for properly coping with the daily tasks they have to perform at their jobs.

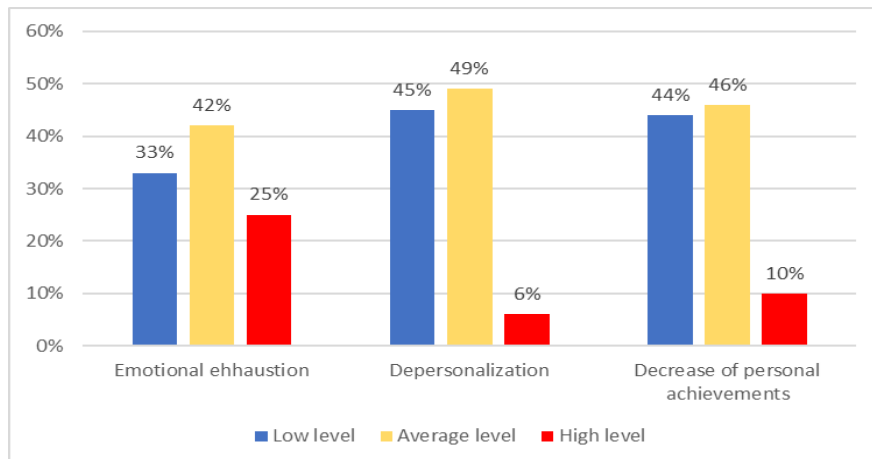


Figure 1. Average values of the burnout syndrome (general sample)

Source: authors' processing, by means of SPSS software

At the same time, about 10% of the medical staff that gave answers to the questionnaire got a high level of the score calculated for the coordinate decrease of professional achievements, while less than a half (46%) of them got average levels of the same score. In accordance, let's notice that 10% of the medical staff of the EHP manifest the tendency to negatively evaluate their professional abilities and results, where such a situation might turn, on a long term, into a serious limitation of the opportunities for developing their career. Meanwhile, in the case of 46% of the respondents, the dimension called *decrease of professional achievements* is nascent, which should represent a serious wake-up call for the management of the health unit.

About 6% of the respondents display a significant level of the dimension called *depersonalisation*, while for 49%, this indicator is nascent. Such a situation might determine a lack of sensitivity for the needs of the patients who come to them for examinations and remedies, which, in the end, might result in cynicism and behaviours lacking empathy and compassion in relation with their patients.

As far as the decreased level of manifestation of the dimensions of the burnout syndrome is concerned, the distribution of the percentages obtained is as follows: 45% of the employees in the medical domain feel *depersonalisation*, 44% manifest the *decrease of professional achievements*, while only 33% display the incipient symptoms of *emotional exhaustion*.

The results of the analysis of the three dimensions of the burnout syndrome depending on the category of personnel under analysis are displayed in the graphs in figures 2-4. The highest level of emotional exhaustion (31.91%) is recorded in the case of physicians and nurses (20.69%). According to the literature, the professionals in the healthcare field are exposed to intense demands during work, and physicians' activity requires a deep understanding of emotions and compassion for the patients and individuals in danger. In addition, they experience uselessness and frustration feelings when they have to face progressive illnesses or treatments that are not able to determine the improvement of the health condition of the patients on a long term. Being a physician or a nurse requires an increased and continual vigilance and exhausts the psychical and physical capacities of the individual (Bravo et al., 2021).

Within our research, a decreased percentage of physicians and nurses displays the *depersonalisation* dimension at a high level (about 6%), which shows that empathy and the way of relating with the patients are affected to a smaller extent. Nonetheless, the increased number of the health professionals that feel this dimension at an average level (57.45% in the case of physicians) shows the danger of the *depersonalisation* phenomenon setting in at a high level and on a long term.

As far as the decrease of personal achievements is concerned, this dimension is felt at a high level by 12.77% of the physicians and 16.67% of the psychologists. In addition, the percentage of the physicians that manifest this indicator at an average level is high enough: 44.68%, which shows that the indicator is nascent among this category of health professionals, a fact that might affect their job performance in the case when specific strategies for fighting stress at work are not implemented.

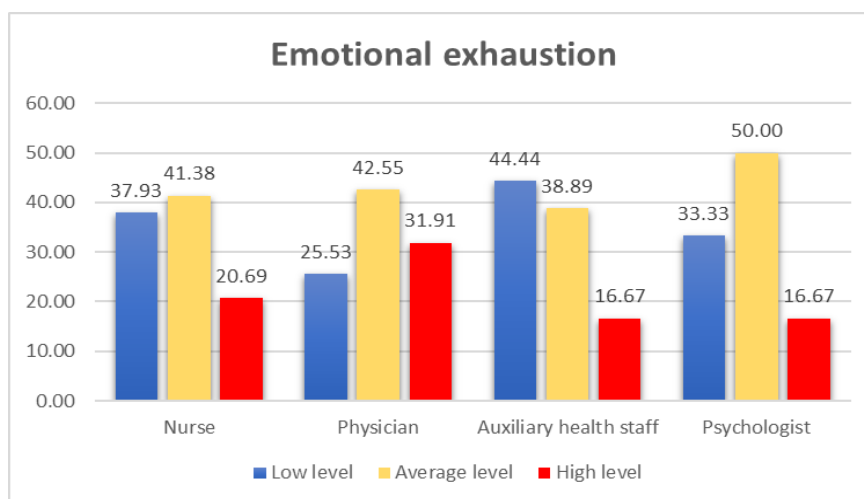


Figure 2. Indicator EE of burnout syndrome according to staff categories
 Source: authors' processing, by means of SPSS software

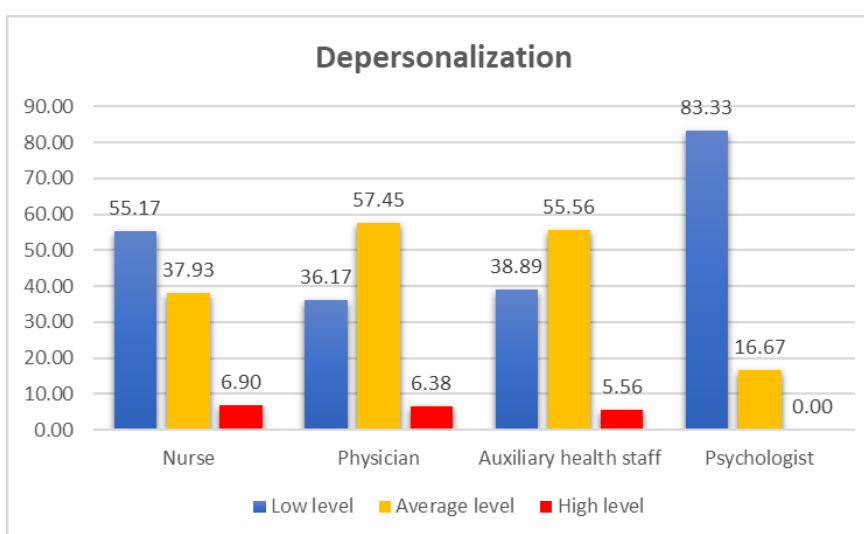


Figure 3. Indicator DP of the burnout syndrome according to staff categories
 Source: authors' processing, by means of SPSS software

By means of the SPSS statistic software, we carried out the ANOVA analysis for the following indicators: *emotional exhaustion (EE)*, *depersonalisation (DP)* and *decrease of personal achievements (DPA)* depending on the staff categories employed by the EHP. The results are displayed in Table 4. Relying on the data shown in table 4, we are able to assert that the differences among the categories of medical staff under analysis at the EHP and the three indicators of the burnout syndrome may not be classified as significant at a national level. Considering the hypotheses of the research, we carried out ANOVA analysis to show the differences among the averages recorded for the three indicators of the BOS compared with the length of service of those who responded to the questionnaire.

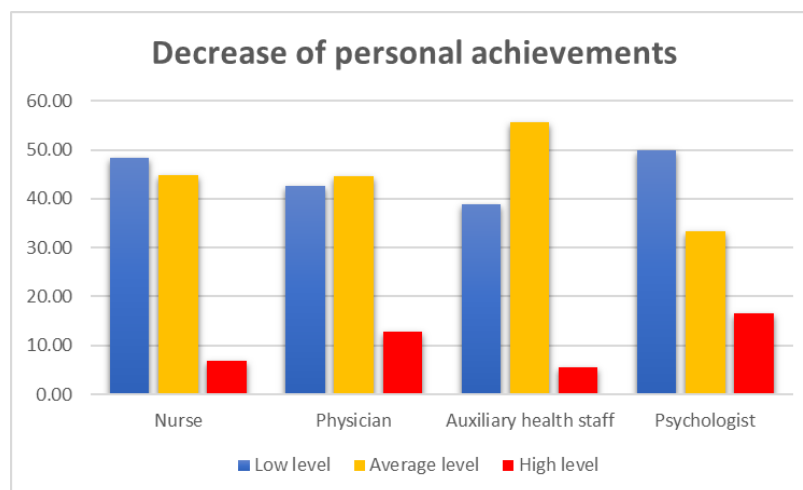


Figure 4. Indicator DPA of the burnout syndrome according to staff categories
 Source: authors' processing, by means of SPSS software

Table 4. ANOVA analysis for comparing the averages of the groups depending on the categories of medical staff included in the research

		Sum of squares	df	Mean square	F	Sig.
Emotional exhaustion	Between Groups	1.969	3	.656	1.138	.338
	Within Groups	55.391	96	.577		
	Total	57.360	99			
Depersonalisation	Between Groups	1.886	3	.629	1.780	.156
	Within Groups	33.904	96	.353		
	Total	35.790	99			
Decrease of personal achievements	Between Groups	62.397	3	20.799	1.270	.289
	Within Groups	1571.963	96	16.375		
	Total	1634.360	99			

Source: authors' processing, by means of SPSS software

The results displayed in table 5 lead to the conclusion that the existing differences between the length of service categories of the staff employed by the EHP and the three indicators of the burnout syndrome cannot be classified as significant.

In accordance with the research carried out by the *College of Physicians in Romania* in 2023, the members of the medical staff at the EHP show that they manage occupational stress more efficiently with the increase of their professional experience. This tendency results in an improvement effect that contributes to the decrease of the burnout risk in the case of all the three indicators analysed: EE, DP and DPA.

At the same time, taking into account that the data types we work with in this research, we considered that the determination of *Spearman correlation coefficient (rho)*, obtained through the nonparametric test for rank correlation, might be able to set forth supplemental information for highlighting the connections among the analysed variables and their dimensions.

Table 5. ANOVA analysis for comparing the averages of the groups depending on the length of service of the respondents

		Sum of squares	df	Mean square	F	Sig.
Emotional exhaustion	Between Groups	5.139	2	2.569	4.773	.011
	Within Groups	52.221	97	.538		
	Total	57.360	99			
Depersonalisation	Between Groups	.794	2	.397	1.100	.337
	Within Groups	34.996	97	.361		
	Total	35.790	99			
Decrease of personal achievements	Between Groups	64.369	2	32.185	1.988	.142
	Within Groups	1569.991	97	16.185		
	Total	1634.360	99			

Source: authors' processing, by means of SPSS software

Therefore, table 6 shows the significant correlations between respondents' length of service and a few assertions included in the *Maslach Burnout Inventory* instrument.

In accordance, we brought to the fore certain significant negative correlations among a series of important indicators for emotional exhaustion and length of service tranche. These EE indicators are measured through the assertions that regard the emotional draining, the exhaustion felt at the beginning of a new day of work, the feeling of depression and apathy as well as the indifference to things for which the respondents used to show a peculiar interest previously. The correlations among these indicators and respondents' length of service are negative.

Table 6. Significant values of Spearman correlation coefficients determined depending on the length of service tranche and EE indicators

Spearman's rho		1. I feel emotionally drained	3. I feel exhausted in the morning when I wake up and I have to cope with a new work day.	9. I experience a feeling of depression and apathy	15. I am indifferent to things for which I used to show interest before
28. What is your length of service tranche?	Correlation coefficient	-.207*	-.341**	-.254*	-.205*
	Sig. (2-tailed)	.039	.001	.011	.041
	N	100	100	100	100

Source: authors' processing, by means of SPSS software

As a rule, the starting of the career in the medical field is associated with an increased stress level, and the employees that are at the beginning of their professional path (especially the physicians and the nurses) display an increase of the BOS prevalence compared with the staff whose length of service is higher. The results we got regarding these indicators measured at EHP are similar with the results of other empirical researches in the literature that show the same vulnerability to exhaustion of the physicians and nurses at the beginning of their career (CMR, 2023).

At the same time, SPSS software enabled us to determine a series of significant correlation coefficients between other two important indicators of depersonalisation and length of service tranche. These DP indicators are measured through the assertions included in table 7.

Table 7. Significant values of Spearman correlation coefficients determined depending on length of service tranche and DP indicators

Spearman's rho		4. I experience periods when I feel overwhelmed by the situation	23. I think I still can get a lot from life
28. What is your length of service tranche?	Correlation coefficient	-.236*	-.244*
	Sig. (2-tailed)	.018	.015
	N	100	100

Source: authors' processing, by means of SPSS software

In accordance, as the medical staff gets older, the risk to experience circumstances when they are overwhelmed by the situations at their jobs decreases, as a result of the knowledge and experience accumulated previously. At the same time, as length of service tranche and, implicitly, respondents' age increases, their future plans regarding career progression narrow, either due to the fact that a part of them already attained their professional goals or to the fact that the other part reached a certain capping level that prevents them from settling more ambitious future objectives.

As far as the differences that regard the occurring of the BOS according to the type of healthcare department they work in, we employed MANOVA analysis, as an alternative of variation analysis, owing to the fact that we dealt with more than three groups of participants. We chose this method because it makes possible the use of a combined dependent variable and, it additionally leads to the identifying of a rapid solution for multiple signification tests.

The values shown by means of Pillai's Trace, Wilks' Lambda, Wilks' Lambda and Roy's Largest Root tests set forth significant statistic differences of BOS dimensions depending on the category of health services provided, as $F_3 = 139,560$, $p = 0,000$ and $\eta_{Partial}^2 = 0,835$, and due to an average effect size index. As a result, the BOS prevalence at EHP significantly differs depending on the type of health services provided by the respondents.

In terms of the EE dimension, let's notice that the highest values of the scores analysed for the BOS risk are recorded in the case of the healthcare staff working in the following fields: ICU, Internal Medicine, Neurology, and Paediatrics. By contrast, the lowest values that show emotional exhaustion according to departments might be found at the following wards: Infectious Illnesses (AIDS), Oncology and RMFB.

Table 8. MANOVA analysis for comparing the group averages depending on the category of healthcare services provided

Multivariate Tests ^a							
Effect		Value	F	Hypo-thesis df	Error df	Sig.	Partial Eta Square
Intercept	Pillai's Trace	.835	139.560 ^b	3.000	83.000	.000	.835
	Wilks' Lambda	.165	139.560 ^b	3.000	83.000	.000	.835
	Hotelling's Trace	5.044	139.560 ^b	3.000	83.000	.000	.835
	Roy's Largest Root	5.044	139.560 ^b	3.000	83.000	.000	.835
I_27	Pillai's Trace	.524	1.286	42.000	255.000	.124	.175
	Wilks' Lambda	.558	1.279	42.000	246.983	.130	.177
	Hotelling's Trace	.654	1,271	42.000	245.000	.136	.179
	Roy's Largest Root	.328	1.994 ^c	14.000	85.000	.028	.247
a. Design: Intercept + I_27							
b. Exact statistic							
c. The statistic is an upper bound on F that yields a lower bound on the significance level.							

Source: authors' processing, by means of SPSS software

As far as the DP dimension is concerned, high values of the scores for this BOS indicator could be found at: ICU, Infectious Illnesses (AIDS), Internal Medicine, Neurology and Paediatrics. In terms of the DPA dimension, the highest average values of the scores may be found at ICU, Infectious Illnesses (AIDS), Internal Medicine, Neurology and Paediatrics.

5. CONCLUSIONS

Our empirical research shows that the most prone to the appearance and manifestation of the BOS are the physicians and nurses that work at the health units dealing with critical care (ICU) or children care (Paediatrics) as well as at the wards dealing with serious issues, such as: increased mortality rates, lack of the time required to meet completely the needs of the patients, improper work conditions, inability deriving from the impossibility to contribute to the total recovery of the patients etc. At the same time, as in the case of the results of the research carried out by the "College of Physicians" from Romania in 2023, the medical staff at the Emergency Hospital in Petrosani proves that it efficiently manages occupational stress with the accumulation of increased professional experience, this tendency determining an improvement effect that contributes to the decrease of the risk of developing the BOS syndrome.

Burnout might seriously affect the quality of health providing, the costs of medical care and the levels of individual health. The manifestation of the BOS among the members of the medical staff also determines a series of negative consequences transferred to the patients: increase of the risk of health errors, deterioration of the relation with the patient, undermining the quality of health providing etc. Starting from these grounds, we recommend that the authorities in the healthcare field carry out

efficient measures able to determine the improvement of the labour environment, the attaining of an optimal balance between professional and personal life, the increase of the staff's awareness regarding the causes, symptoms and prophylaxis methods of the BOS. In addition, we recommend the creation of a series of mentoring programs within the health units through which the members of the medical staff with higher work experience and less BOS-exposed share their experience enabling them to efficiently manage the level of stress they face, while competently guiding and proposing proper strategies for the beginners and those with a shorter length of service. Another measure that can be taken to reduce burnout involves addressing the scarcity of medical resources, which leads to increased levels of emotional exhaustion. Regarding the volume and complexity of tasks, the intervention focuses primarily on setting these tasks by accurately allocating the necessary work time to ensure that healthcare workers feel capable of handling their daily duties at the workplace. In many cases, achieving a balanced match between the workload required in a workday and the available staff involves hiring additional personnel to limit excessive workload. Additionally, it is important not to overlook measures that help medical staff feel supported by management in career development activities. Flexible work schedules or financial support can facilitate participation in specialized scientific symposia or professional development training.

In addition to the above, healthcare management should implement AI to automate routine administrative duties like scheduling, documentation, and billing. By minimizing time spent on paperwork, healthcare professionals can devote more attention to patient care, thereby reducing stress and burnout. AI should also be employed for continuous patient monitoring, using wearable devices or medical equipment to monitor vital signs and anticipate potential health problems before they escalate. This proactive strategy can help alleviate the workload by decreasing the need for constant manual monitoring. Additionally, management should consider using care robots for tasks such as transporting supplies, delivering medications, or assisting patients with mobility, which can save time and physical effort for staff, enabling them to concentrate on more complex responsibilities. The strategies and instruments for preventing the occurring of the burnout syndrome and its detection in incipient phases will become major preoccupations of the management of health units and will target both the general strategies for decreasing occupational stress and customised coping approaches.

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