DOI 10.25789/YMJ.2025.91.16

UDC 614.2

Yu.I. Logvinov, E.A. Berseneva, E.A. Gorbunova, P.A. Drozdov

FEATURES OF EMOTIONAL BURNOUT IN THE CONTEXT OF TRAINING DOCTORS USING SIMULATION TECHNOLOGIES

Relevance: The high prevalence of burnout syndrome among medical professionals has a negative impact on mental and physical health, leading to a decrease in labor productivity and the effectiveness of medical organizations.

The purpose of the study: to determine the formation of phases and severity of symptoms of burnout syndrome among doctors who have been trained in programs using simulation technologies.

Material and methods: The study involved 142 doctors of state medical organizations who are studying advanced training at the Training and Accreditation Center - the Medical Simulation Center of the Moscow Multidisciplinary Scientific and Clinical Center named after S.P. Botkin in 2024. The analytical method, methods of comparative analysis, psychological testing, and statistical methods were used. To study the burnout syndrome, the methodology proposed by V.V. Boyko (1996) was used. Parametric (Student's t-test) and nonparametric (Mann-Whitney U-test) methods were used in statistical processing of the material. The statistical analysis was performed using Microsoft Excel 2016, SPSS Statistics 23.0 programs.

Results: All three phases of burnout syndrome were detected in 71 (50%) respondents. 25 (17.61%) people did not have a single formed phase, but they had some symptoms of PBS. Individual symptoms of burnout syndrome were identified in 140 of the 142 study participants, the most common were "experiencing traumatic circumstances" (83/58.45%), "inadequate selective response" (82/57.74%), "reduction of professional responsibilities" (79/55.63%). Compared with surgeons, anesthesiologists-resuscitators had more often the formation of all three phases, and such a symptom as "emotional and moral disorientation" was more pronounced ($p<0.05$).

Conclusion. The data obtained on the high incidence of burnout syndrome, the degree of formation of phases and the severity of individual symptoms among doctors studying advanced training cycles using simulation technologies allow us to identify the main areas of preventive work in the future..

Keywords: emotional burnout, phases and symptoms of burnout syndrome, surgeons, anesthesiologists, intensive care physicians, advanced training, simulation technologies.

For citation: Logvinov Yu.I., Berseneva E.A., Gorbunova E.A., Drozdov P.A. Features of emotional burnout in the context of training doctors using simulation technologies. Yakut Medical Journal, 2025; 91(3): 61-66. https://doi.org/10.25789/YMJ.2025.91.16

LOGVINOV Yuri Ivanovich – PhD, head of the Training and Accreditation Center – Medical Simulation Center, SBHI S.P. Botkin Moscow Multidisciplinary Scientific and Clinical Center of the Moscow Department of Healthcare; Associate Professor of the Department of Public Health Organization with a Course in Healthcare Technology Assessment, Russian Medical Academy of Continuous Professional Education MH RF, ORCID: 0000-0001-8687-526X, LogvinovYI@zdrav.mos.ru; **BERSENEVA Evgeniya Aleksandrovna** – MD, PhD, Prof., head of the Department of Healthcare Organization and Quality Management, Russian Presidential Academy of National Economy and Public Administration; Scientific Director of the National Institute of Quality of the Federal Service for Surveillance in Healthcare; Scientific Director of the All-Russian Research and Testing Institute of Medical Equipment of the Federal Service for Surveillance in Healthcare, ORCID: 0000-0003-3481-6190, eaberseneva@gmail.com; **GORBUNOVA Elizaveta Aleksandrovna** – Psychologist, Training and Accreditation Center – Medical Simulation Center, S.P. Botkin Moscow Multidisciplinary Scientific and Clinical Center, Department of Health of the City of Moscow, ORCID: 0000-0002-4329-9968, Eliza.gorbunova@gmail.com; **DROZDOV Pavel Alekseevich** – MD, PhD, Deputy Director for Research, S.P. Botkin Moscow Multidisciplinary Scientific and Clinical Center, Department of Health of the City of Moscow, Associate Professor, Department of Surgery, Transplantology, and Applied Oncology, Russian Medical Academy of Continuous Professional Education, Ministry of Health of the Russian Federation, ORCID: 0000-0001-8016-1610, dc.drozdov@gmail.com.

Introduction. Studies of burnout syndrome indicate that healthcare professionals are more susceptible to "burnout", and the professional "burnout" of doctors has reached epidemic proportions [19,13]. Manifestations of this condition are more common in representatives of medical specialties related to the provision of emergency and emergency medical care, employees of the district service [10].

Surgeons have a high risk of "burnout", resulting in such consequences as exhaustion, devaluation of personal achievements, depersonalization, depression with suicidal thoughts, decreased quality of life, progressive threat of making medical mistakes [12,17,18,14], 8.9% are worried that they have made a serious medical mistake in the last 3 months, and 70% of surgeons believe that the error is caused not by systemic, but by individual factors [3,4,6]. Among other determinants of burnout, there is an imbalance between working hours and family life, long work shifts, and poor workplace relations [12]. D. Brock Hewitt et al. (2021) in a study conducted among 7,413 surgical residents, 38.5% revealed symptoms of emotional exhaustion and depersonalization; 23.7% of residents found symptoms of emotional exhaustion themselves over the past year; 4.5% of the surveyed had suicidal thoughts [21]. In a study of the causes of death of 324 residents from 2000 to 2014, conducted by Yaghmour N. A. et al. (2017), the prevalence of cancer and suicide among the causes of death was found, while death as a result of suicide was more common among male residents, and girls were more likely to die from malignant neoplasms [16].

A study conducted in 2020 in the USA clearly demonstrates the high risk of burnout among anesthesiologists (59.2%), the proportion of the identified syndrome is 13.8%, to a large extent, the reason for the risk lies in the lack of support from doctors of this specialty, in professional everyday realities [15]. The analysis published by domestic colleagues reinforces the general trend, where 65.9% of anesthesiologists have high scores on the scale of "emotional exhaustion", or on the scale of "depersonalization", or "reduction of professional achievements", and 12.19% have a high value of the systemic burnout index [8]. Using the observations obtained as a starting point, "burnout"

correlates with depression, personal and situational anxiety [8].

The study of the factors contributing to professional distress, the patterns of formation of burnout syndrome in representatives of various medical specialties will determine the main directions of its prevention.

Due to the fact that burnout syndrome has a negative impact on both mental and physical health, as well as on labor productivity and organizational effectiveness, the study of this phenomenon seems relevant and timely.

The purpose of the study: to determine the formation of phases and severity of symptoms of burnout syndrome among doctors of public medical organizations who have been trained in additional professional development programs using simulation technologies.

Material and methods. The study involved 142 doctors from government medical organizations who are studying advanced training at the Training and Accreditation Center, the Medical Simulation Center of the Botkin Moscow Multidisciplinary Research and Clinical Center in 2024.

The students were trained in the programs "Moscow School of Surgery", "Fundamentals of laparoscopic surgery in a short-term inpatient complex. Basic course", "Basic principles and clinical application of hyperbaric oxygenation", "Cardiopulmonary resuscitation. Basic course", "Modern possibilities of diagnosis and treatment of epilepsy".

Most of them were representatives of specialties related to the provision of emergency and emergency care, surgical specialties: surgeons - 74 (52.11%), anesthesiologists-intensive care specialists - 25 (17.6%), otorhinolaryngologists - 3 (2.11%), oncologists - 2 (1.41%), urologists - 2 (1.41%), endoscopists - 2 (1.41%), obstetricians-gynecologists - 1 (0.7%), emergency physicians - 1 (0.7%), pediatric surgeons - 1 (0.7%). Representatives of the therapeutic and diagnostic profile also participated in the study: neurologists - 11 (7.75%), endocrinologists - 8 (5.63%), ultrasound diagnostics doctors - 2 (1.41%), pediatricians - 2 (1.41%), functional diagnostics doctors - 1 (0.7%), general practitioners (family doctors) - 1 (0.7%), infectious diseases doctors - 1 (0.7%). 5 (3.52%) people have no established specialty.

The analytical method, methods of comparative analysis, psychological testing, and statistical methods were used.

To study the burnout syndrome (PBS), a technique proposed by V.V. Boyko (1996) was used to identify the phase of emotional burnout, the degree of its formation, and the severity of individual symptoms in each phase [1]. According to the "key", the sum of points was determined separately for each of the 12 symptoms of "burnout", the sum of the indicators of symptoms for each of the 3 phases of the formation of "burnout" was calculated, and the final indicator of "emotional burnout" syndrome was calculated as the sum of the indicators of all 12 symptoms. The severity of each symptom ranges from 0 to 30 points: 9 or less points — a failed symptom, 10-15 points — a developing symptom, 16 or more — a developed one. Symptoms with scores of 20 or more are considered dominant in the phase or in the entire "burnout" syndrome. When evaluating the phase, it was assumed that if the number of points was 36 or less, the phase was not formed; 37-60 points — the phase in the formation stage; 61 or more points — the formed phase.

According to V. V. Boyko's method, the stress phase is characterized by a feeling of fatigue and emotional exhaustion caused by professional activity. The symptoms of the stress phase are experiencing traumatic circumstances, dissatisfaction with oneself, feeling "trapped in a dead end", anxiety and depression. The resistance phase is characterized by excessive loss of emotional resources, manifests itself as inadequate selective emotional response, emotional and moral disorientation, expansion of the sphere of saving emotions, and reduction of professional responsibilities. The exhaustion phase is characterized by psychophysical overwork, depression, devaluation of personal achievements in professional life, discord in professional relationships, increasing cynicism towards others, along with psychosomatic disorders. It is symptomatically manifested by emotional deficit, emotional isolation, personal alienation, and psychosomatic disorders [1].

During the survey, despite the pre-test conversation and guarantees of anonymity of the answers, doctors expressed concerns about disclosing the results of the survey to the management of medical organizations and did not fully answer questions about the respondent's personality, which significantly narrowed the possibilities of conducting a correlation analysis of factors related to emotional burnout.

Statistical analysis was performed using the Kolmogorov-Smirnov test to test the hypothesis that the data is subject to a normal distribution. Depending on the data obtained on the normality of the distribution, parametric (Student's t-test) and nonparametric (Mann-Whitney U-test) methods were used to identify differences in the severity of burnout phases and their symptoms between surgeons and intensive care anesthesiologists. The statistical analysis was performed using Microsoft Excel 2016, SPSS Statistics 23.0 programs.

Results. Among the doctors who participated in the study, 71 (50%) respondents had all three phases of PBS of varying degrees of formation. 25 (17.61%) people did not have a single formed phase, but they had some symptoms of PBS.

The results of the study on the degree of formation of the PBS phases, presented in Table 1, show that 43 (30.28%) of the listeners who participated in the study have formed the first phase of the PBS, the stress phase, 40 (28.17%) of the respondents are in the formation stage, 59 (41.55%) have not formed. The resistance phase was formed in 73 (51.41%) of the doctors who participated in the study, at the stage of formation – in 41 (28.87%); not formed – in 28 (19.71%) doctors. 44 (30.99%) respondents had a depletion phase, 41 (28.87%) were in the formative stages, and 57 (40.14%) doctors were not.

The analysis of the established and dominant symptoms characteristic of certain phases of PBS is shown in Table 2. As follows from the data presented, in the stress phase, the symptoms of "experiencing traumatic circumstances" are established and dominant in 83 (58.45%) respondents, in the resistance phase - "inadequate selective response" - in

Table 1

The degree of formation of phases of emotional burnout among doctors, abs.% (n=142)

Phases of the Burnout syndrome	The phase has not formed	A phase in the formation stage	The formed phase
Voltage phase	59/41.55%	40/28.17%	43/30.28%
The resistance phase	28/19.71%%	41/28.87%	73/51.41%
The exhaustion phase	57/40.14%	41/28.87%	44/30.99%

82 (57.74%), "expansion of the sphere of saving emotions" - in 62 (43.66%), "reduction of professional duties" - in 79 (55.63%), in the exhaustion phase – "emotional detachment" - in 52 (36.62%) doctors.

Psychosomatic and psychovegetative disorders were not detected in more than half of the respondents (77 people (54.22%), however, 38 (26.76%) have started the formation process, and 27 (19.01%) already have its manifestations that violate the quality of life of the respondents.

The average score of respondents with manifestations of the stress phase was 62.52+1,886, with manifestations of the resistance phase - 69.24+1,736, with manifestations of the exhaustion phase – 65.69+2,011. It is noteworthy that the majority of respondents had symptoms characteristic of the formed resistance phase. This phase is characterized by the appearance of protective symptoms, continued resistance to the pressure of stressful factors by seeking attempts to avoid the negative influence of external factors for the sake of a sense of mental well-being and peace (Table 3). However, the symptoms can already be noticed by loved ones in situations of "emotional breakdown" at home, while at work the individual tends to minimizing contacts.

The results of the study indicate that symptoms of burnout syndrome were detected in 140 (98.59%) of the 142 doctors who participated in the study (Table 4). Of these, the majority experienced traumatic circumstances, as a result, 22 (15.7%) doctors fully developed the symptom, and 61 (43.6%) The most common symptom of "inadequate selective emotional response" was dominant in 49 (35%) of respondents and in 33 (23.7%) it is a developed symptom (x =16.63; Me=19.00; Mo=27) of the respondents.; Me=17.50; Mo=20). "Reduction of professional responsibilities" is widespread among doctors who have joined the training: 23 (16.4%) have developed a symptom, and 56 (40%) have a dominant resistance phase (x =16.97; Me=18.00; Mo=25).

According to the analysis of the normality of the distribution of samples of surgeons and anesthesiologists, resuscitators, using the criterion of normality of the Kolmogorov-Smirnov distribution, there was no statistically significant evidence that the data do not obey the normal distribution (p>0.05).

The frequency of occurrence, the degree of formation of phases and individual symptoms were analyzed in a group of surgeons (n= 74) and a group of anesthesiologists and intensive care physicians (n=25).

As follows from the data presented in Table 5, the stress and exhaustion phases of surgeons do not significantly differ from those of intensive care anesthesiologists (p>0.05), while the resis-

Table 2

The degree of formation of symptoms of emotional burnout, abs./%, (n=142)

Symptoms of phases of burnout syndrome	An uncomplicated symptom	Emerging symptom	The developed symptom	The dominant symptom in the phase
	Absolute/%	Absolute/%	Absolute/%	Absolute/%
Experiencing traumatic circumstances	38/27.14	19/13.57	22/15.71	61/43.57
Dissatisfaction with oneself	85/60.71	38/27.14	7/5	10/7.14
Being trapped in a cage	86/61.43	29/20.71	15/10.71	10/7.14
Anxiety and depression	61/43.57	39/27.86	13/9.29	27/19.28
Inadequate selective emotional response	20/14.29	38/27.14	33/23.57	49/35
Emotional and moral disorientation	43/30.71	53/37.86	26/18.57	18/12.86
Expanding the sphere of saving emotions	49/35	29/20.71	14/10	48/34.29
Reduction of professional responsibilities	27/19.28	34/24.29	23/16.43	56/40
Emotional deficit	50/35.71	43/30.71	25/17.86	22/15.71
Emotional detachment	41/29.28	47/33.57	32/22.86	20/14.29
Personal detachment (depersonalization)	60/42.86	26/18.57	16/11.43	38/27.14
Psychosomatic and psychovegetative disorders	75/53.57	38/27.14	10/7.14	17/12.14

Table 3

The values of descriptive statistics on the phases of emotional burnout

-	Voltage phase	The resistance phase	The exhaustion phase
Valid ones, n	83	114	85
Arithmetic mean, $\tilde{x}$	62.52	69.24	65.69
Standard error of the average value, $S_{\bar{x}}$	1.886	1.736	2.011
Median,Me	62.00	67.00	62.00
Vogue,Mo	37	61	47
Mean square deviation, σ	17.181	18.534	18.538
Variance, S^2	295.180	343.492	343.667
Range	68	69	68
Minimum	37	37	38
Maximum	105	106	106
Total, ∑	5189	7893	5584

Table 4

The results of descriptive statistics on the symptoms of emotional burnout, (n=140)

-	Experiencing traumatic circumstances	Dissatisfaction with oneself	Being trapped in a cage	Anxiety and depression	Inadequately selective emotional response	Emotional and moral disorientation	Expanding the sphere of saving emotions	Reduction of professional responsibilities	Emotional deficit	Emotional detachment	Personal detachment (depersonalization)	Psychosomatic disorders
Arithmetic mean, $\tilde{x}$	16.63	8.39	8.04	11.45	17.22	12.94	14.39	16.97	12.53	12.96	13.31	9.74
Standard error of the average value $S_{\bar{x}}$	0.786	0.602	0.633	0.769	0.625	0.554	0.857	0.739	0.703	0.566	0.889	0.689
Median, Me	19.00	8.00	6.00	10.00	17.50	12.00	14.00	18.00	12.00	12.50	13	8.00
Vogue, Mo	27	0	0	0	20	10	0	25	0	10	0	10
Mean square deviation, S	9.300	7.123	7.490	9.096	7.398	6.553	10.137	8.742	8.313	6.695	10.517	8.148
Variance, S^2	86.494	50.744	56.107	82.738	54.735	42.938	102.758	76.431	69.100	44.826	110.606	66.394
Asymmetry	-0.441	0.857	0.819	0.507	-0.344	0.468	0.062	-0.337	0.263	0.072	0.318	0.880
St. excess error	0.205	0.205	0.205	0.205	0.205	0.205	0.205	0.205	0.205	0.205	0.205	0.205
Range	30	30	30	30	30	30	30	30	30	25	33	30
Minimum	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	30	30	30	30	30	30	30	30	30	25	33	30
Total, $\sum$	2328	1175	1125	1603	2411	1811	2015	2376	1754	1815	1864	1364

tance phase of intensive care anesthesiologists is more pronounced than that of surgeons (p <0.05).

A comparative characteristic of the frequency of symptoms of burnout syndrome in the group of surgeons (n=72) and intensive care anesthesiologists (n=25) is presented in Table 6.

The symptom of "emotional and moral disorientation" was more pronounced among anesthesiologists than that of surgeons (p <0.05).

Among surgeons, 18 (24.32%) people did not develop COMECON phases, while only 2 (8%) people did not develop COMECON phases among anesthesiologists and intensive care physicians. All three phases of PBS were formed in 31 (41.89%) surgeons and 16 (64%) intensive care anesthesiologists.

A comparative characteristic of the formation of phases and symptoms of PBS indicates that anesthesiologists and intensive care physicians were more likely to have the formation of all three phases of PBS, and the symptom of "emotional and moral disorientation" was more pronounced than that of surgeons (p<0.05).

Currently, the Moscow Multidisciplinary Scientific and Clinical Center named after S.P. Botkin of the Moscow Department of Health is implementing an 18-hour professional development program for doctors of all specialties "Prevention of professional burnout in the work of a doctor", accredited in the NMO system. The training is conducted full-time. The main purpose of the program is to train doctors in ways of self-regulation and modern approaches to the prevention of professional burnout (https://botkinmoscow.ru/specialists/sim-tsentr/o-tsentre/obrazovatelnye-programmy/profilaktika-professionalnogo-vygoraniya-v-rabote-vrach/).

Discussion. Researchers' close attention to the problem of emotional burnout among medical professionals is only growing every year. A number of experts tend to equate the concepts of "stress" and "burnout", which is not a misconception, because the causes and symptoms of these phenomena are similar. The sources of distress are diverse, they become disastrous for an individual when the demands are inversely proportional to the available resources, as well as when stressful conditions persist

Table 5

Phases of burnout syndrome in a group of surgeons and intensive care anesthesiologists

№	Phases of emotional burnout	Doctors-surgeons, n= 74, Me	Intensive care anesthesiologists, n=25, Me	U	Z	p-value
1.	Voltage phase	63.00	65.00	326.500	- 0.433	0.665
2.	The resistance phase	66.00	71.00	526.500	- 1.162	0.245
3.	The exhaustion phase	68.50	60.00	316.000	- 0.740	0.459

Table 6

Symptoms of burnout syndrome in the group of surgeons and anesthesiologists- resuscitators

№	Symptoms of emotional burnout	The Mann-Whitney criterion				The t-Student criterion			
		Doctors-surgeons, Me	Intensive care anesthesiologists, Me	U	p-value	Doctors-surgeons, $\tilde{x}, S_{\bar{x}}$	Intensive care anesthesiologists, $\tilde{x}, S_{\bar{x}}$	t	p-value
1.	Experiencing traumatic circumstances (in the stress phase)	17.0	22.0	740.0	0.186	15.61 1.130	18.72 1.562	1.460	0.147
2.	Dissatisfaction with oneself (in the stress phase)	7.0	10.0	690.0	0.081	7.71 0.837	10.16 1.350	1.505	0.136
3.	Caged (in the stress phase)	5.0	10.0	751.5	0.217	7.47 0.877	9.20 1.324	1.027	0.307
4.	Anxiety and depression (in the stress phase)	10.0	11.0	847.0	0.660	11.03 1.067	11.80 1.826	0.367	0.715
5.	Inadequately selective emotional response (in the resistance phase)	17.0	20.0	707.5	0.111	15.83 0.887	18.80 1.290	1.757	0.082
6.	Emotional and moral disorientation (in the resistance phase)	10.0	15.0	644.0	0.034	12.17 0.739	15.44 1.244	2.255	0.026
7.	Expansion of the sphere of saving emotions (in the phase of resistance)	13.0	13.0	817.0	0.492	13.72 1.193	15.24 2.017	0.646	0.520
8.	Reduction of professional responsibilities (in the phase of resistance)	15.5	20.0	698.0	0.095	15.68 1.082	19.36 1.465	1.812	0.073
9.	Emotional deficit (in the exhaustion phase)	10.0	15.0	668.5	0.056	11.42 0.880	14.88 1.773	1.902	0.060
10.	Emotional withdrawal (in the exhaustion phase)	13.0	15.0	836.0	0.597	13.00 0.776	13.88 1.473	0.558	0.578
11.	Personal detachment (Depersonalization) (in the exhaustion phase)	13.0	15.0	777.0	0.308	12.31 1.236	14.84 2.152	1.034	0.304
12.	Psychosomatic and psychovegetative disorders (in the exhaustion phase)	7.0	10.0	709.5	0.115	8.63 0.900	11.40 1.703	1.520	0.132

for a long time, being a destructive basis for the formation of diseases. During the work process, a person is confronted with several types of stress, divided into three main clusters: stress associated with work, or rather with its conditions; professional stress, as a result of stress related to the type of activity; organizational stress- the product of the impact of the distinctive properties of the institution where a person works.

The American psychoanalyst Herbert J. Smith plays a fundamental role in the study of professional distress. To Freudenberger, who was the first to introduce the concept of "burnout." Despite the growing number of publications devoted to the problem of "burnout", there is currently no single definition. In the works of Vodopyanova N.E., "burnout" is presented as a synthesis of mental experiences and behavior, which affects not only professional activity, but also well-being, as well as the relationship of a "burned out" employee. Consequently, the syndrome occurs in response to long-term stress in career activities [1]. Without going into specifics, "burnout" refers to emotional exhaustion, which acts as a protective mechanism in response to traumatic stimuli [2]. Burnout affects not only the doctor himself, but also his close circle of associates, his colleagues and, in general, the health care system, the ability to provide high-quality care to patients [3,4].

The combination of symptoms such as emotional exhaustion (indifference, feeling of emptiness, impoverishment of the emotional background); depersonalization; reduction of personal achievements (weakening confidence in one's own competence, reducing the value of personal professional success) and forms burnout syndrome [6]. The concept formed by the authors (K. Maslach, S. Jackson, N.V. Grishina), allows us to conclude that internal psychological experience, including motivation, as well as individual negative experiences and the boundaries of the "emotional self", integrating, act as determinants of burnout syndrome. As a result, stress affects, to varying degrees, physical and mental health, adversely affecting the quality of work and adaptive potential [1].

N.A. Sirota (2017) in his work cites examples of the development of burnout syndrome not only among doctors, but also among students [17]. The work of A.N. Petri (2017) indicates the influence of professional experience on the level of emotional burnout. Thus, specialists with more than five years of experience are susceptible to professional burnout syndrome in the presence of indirect

aggression and feelings of guilt. The author emphasizes the important role of the doctor's self-acceptance and personal character traits, in particular, he points to a significant degree of involvement in the development of emotional burnout of such a personality quality as pedantry [18]. The results of a domestic study demonstrate revealed professional burnout in a third of district internists (298 out of 1014 internists who participated in the study) [16].

The data obtained in this study are generally consistent with the results of other studies on the prevalence of emotional burnout among doctors, and the greater susceptibility of specialists providing emergency and emergency care to this syndrome. The professional environment of surgeons and anesthesiologists is stressfully saturated, which requires doctors to have a strong adaptive potential, a high level of neuropsychiatric stability, willingness to take risky actions, and the ability to make responsible decisions in emergency situations. At the same time, such factors as impotence in total control over the object of one's professional activity; ambiguous ethical aspects; lack of positive feedback from patients; possible disagreements with fellow surgeons and other circumstances are highly likely to lead to destructive consequences have a negative impact on stress tolerance. The most common are burnout syndrome, addictive behavior, anxiety disorders, depression, and even suicidal tendencies.

To date, there are studies among scientific publications aimed at studying methods of countering burnout, ways to correct emotional stress by medication, which is used by about a third of medical professionals, or by changing professional activities [19].

The current recommendations for the prevention of burnout indicate that if two conditions are met - duration and consistency of use – the effectiveness of preventive measures increases. Preventive measures aimed at the intellectual sphere involve changing the type of activity, expanding the range of activities, communication, new acquaintances, which can be realized through additional professional training and regular professional development. All this has a positive effect on career motivation in the future, increases the chances of rethinking previous unsuccessful experiences, redirects attention to one's own achievements, followed by transformation into a resource experience [8,20].

Compliance with the following recommendations should reduce the likelihood of developing burnout syndrome: mastery of self-regulation skills, meaningful guidance for the future, interest in the very process of life in the current period of time, a positive view of the past, an internal locus of control. Professional development, advanced training, additional education, as well as participation in conferences and other scientific events will increase the level of resistance to emotional burnout.

There are prospects for further study of Burnout by doctors in the direction of assessing the impact of various potentially stressful factors, developing rapid screening of burnout symptoms before and after training, and building predictive models of the risk of Burnout formation depending on the specialty and working conditions of doctors.

Conclusion. Half of the doctors (71 people (50%)) who participated in the study had all three phases of burnout syndrome of varying degrees of development. 25 (17.61%) people did not have a single formed phase, but they had some symptoms of PBS.

Of the three phases of emotional burnout, the stress phase was formed in 43 (30.28%) listeners, half of the respondents (73 (51.41%) people) have a developed resistance phase, the exhaustion phase was detected in a third (44 (30.99%) people) of doctors, while 2/3 of doctors have a combination of two or more three phases of varying degrees of formation.

Symptoms of burnout syndrome were identified in 140 of the 142 study participants. Among them, the most common were "experiencing traumatic circumstances" (83/58.45%), "inadequate selective response" (82/57.74%), "reduction of professional responsibilities" (79/55.63%), "expansion of the sphere of saving emotions" (62/43.66%), "emotional detachment" (52/36,62%).

Psychosomatic and psychovegetative disorders have not been identified in more than half of the respondents, but the process of their formation has been started in 38 (26.76%) of respondents, and 27 (19.01%) of doctors already have its manifestations that violate the quality of life of respondents.

A comparative characteristic of the formation of phases and symptoms of burnout syndrome indicates that anesthesiologists and intensive care physicians were more likely to have all three phases; and the symptom of "emotional and moral disorientation" was more pronounced than that of surgeons (U=644,000, p=0.034).

The authors declare no conflict of interest.

References

1. Boiko V.V. Psihoenergetika [Psychoenergetics]. Kratkij spravochnik [A short reference guide. St. Petersburg: Peter, 2017; 505 (In Russ.).]
2. Vodopyanova N.E., Starchenkova E.S. Sindrom vygoraniya [Burnout syndrome]. Diagnostika i profilaktika: prakticheskoe posobie [Diagnosis and Prevention: practical tools. 3rd ed. Moscow: Yurit, 2024; 299 (In Russ.).]
3. Logvinov Yu.I., Gorbunova E.A. Analiz prediktorov professional'noj uspeshnosti vrachej-hirurgov i rol' obucheniya s primeneniem simulyacionnyh tekhnologij v eyo formirovanii [Analysis of predictors of professional success of surgeons and the role of training using simulation technologies in its formation]. Medicinskoe obrazovanie i professional'noe razvitie [Medical education and professional development. 2022; 13(1(45): 16-29 (In Russ.).] DOI: 10.33029/2220-8453-2022-13-1-16-29
4. Logvinov Yu.I., Gorbunova E.A. Vliyanie obucheniya s ispol'zovaniem simulyacionnyh tekhnologij na emocional'noe sostoyanie vrachej-hirurgov [The influence of training using simulation technologies on the emotional state of surgeons]. Medicinskoe obrazovanie i professional'noe razvitie [Medical education and professional development. 2021; 4(44): 8-22 (In Russ.).] DOI: 10.33029/2220-8453-2021-12-4-8-22.
5. Petri A.N. Osobennosti emocional'nogo vygoraniya medicinskih rabotnikov [Features of emotional burnout of medical workers]. Akmeologiya [Acmeology. 2017; 1: 128-133 (In Russ.).]
6. Shabunin A.V., et al. Problemnye aspekty v sovershenstvovanii obucheniya medicinskih kadrov i ih rol' v hirurgicheskom lechenii [Problematic aspects in improving the training of medical personnel and their role in surgical treatment]. Virtual'nye tekhnologii v medicine [Virtual technologies in medicine. 2023; 2(36): 99-102 (In Russ.).] DOI:10.46594/2687-0037_2023_2_1628.
7. Savinskaya E.S., Kharkova O.A. Problema emocional'nogo vygoraniya u vrachej [The problem of emotional burnout among doctors]. Innovacionnaya nauka [Innovative science. 2020; 12: 178-180 (In Russ.).]
8. Sinbukhova E.V., Lubnin A.Yu., Popugaev K.A. Emocional'noe vygoranie v anesteziologii-reanimatologii [Emotional burnout in anesthesiology and intensive care]. Zhurnal im. N.V. Sklifosovskogo "Neotlozhnaya medicinskaya pomoshch" [N.V. Sklifosovsky Journal 'Emergency medical care'. 2019; 8(2): 186-193 (In Russ.).]. DOI: 10.23934/2223-9022-2019-8-2-186-193.
9. Sukhanova E.I. Profilaktika professional'nogo vygoraniya [Prevention of professional burnout]. Neonatologiya: novosti. Mneniya. Obuchenie [Neonatology: news. Opinions. Training. 2022; 3(37): 68-72 (In Russ.).] DOI: 10.33029/2308-2402-2022-10-3-68-72.
10. Borshchuk E.L., et al. Emocional'noe vygoranie vracha-terapevta uchastkovogo [Emotional burnout of a district therapist]. Menedzher zdravoohraneniya [Health Care Manager. 2021; 1: 64-71 (In Russ.).] DOI: 10.21045/1811-0185-2021-1-64-71.
11. Sirota N.A., et al. Emocional'noe vygoranie vrachej [Emotional burnout of doctors]. Infekcionnye bolezni: Novosti. Mneniya. Obuchenie [Infectious diseases: News. Opinions. Training. 2017; 4(21): 19-25 (In Russ.).] DOI:10.24411/2305-3496-2017-00063.

12. Kimberly B Golisch, et al. Addressing Surgeon Burnout Through a Multi-level Approach: A National Call to Action. Current trauma reports. 2023; №9(2): 28-39. DOI: 10.1007/s40719-022-00249-x.
13. Brian E Lacy, Johanna L Chan Physician Burnout: The Hidden Health Care Crisis. Clin Gastroenterol Hepatol. 2018; 16(3): 311-317. DOI:10.1016/j.cgh.2017.06.043.
14. Tait D. Shanafelt, Sonja Boone, Litjen Tan. Burnout and Satisfaction with Work-Life Balance Among US Physicians Relative to the General US Population. Arch Intern Med. 2012; №172(18): 1377-1385. DOI: 10.1001/archinternmed.2012.3199.
15. Anoushka M Afonso, et al. Burnout Rate and Risk Factors among Anesthesiologists in the United States. Anesthesiology. 2021; 134(5): 683–696.DOI:10.1097/ALN.0000000000003722.
16. Nicholas A Yaghmour, et al. Causes of Death of Residents in ACGME-Accredited Programs 2000 Through 2014: Implications for the Learning Environment. Academic Medicine. 2017; 92(7): 976-983. DOI: 10.1097/ACM.0000000000001736.
17. Matthew Sauder, et al. Comprehensive Assessment of Burnout Among Surgical Trainees and Practicing Surgeons: A Systematic Review. Journal of surgical education. 2022; 79(5): 1188-1205.DOI: 10.1016/j.jsurg.2022.04.009.
18. Francesca M. Dimou, David Eckelbarger,Taylor S. Riall. Surgeon Burnout: A Systematic Review // Journal of the American College of Surgeons. 2016; 222(6): 1230-1239. DOI: 10.1016/j.jamcollsurg.2016.03.022.
19. Colin P West, et al. Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis. Lancet. 2016; 388(10057): 2272–2281.DOI:10.1016/S0140-6736(16)31279-X.
20. Maslach, C., Schaufeli, W.B. & Leiter, M.P. Job burnout //Annual review of psychology. 2001; 52: 397-422. DOI: 10.1146/annurev.psych.52.1.397.
21. D. Brock Hewitt, et al. National Evaluation of Surgical Resident Grit and the Association with Wellness Outcomes. JAMA Surg. 2021; 156(9): 856-863. DOI:10.1001/jamasurg.2021.2378.
22. Carolyn S Dewa, et.al. The relationship between physician burnout and quality of healthcare in terms of safety and acceptability: a systematic review. BMJ Open Journals. 2017; 7(6). DOI:10.1136/bmjopen-2016-015141.

ORGANIZATION OF HEALTH, MEDICAL SCIENCE AND EDUCATION

S.M. Tarabukina, S.N. Zhirkov, I.I. Vinokurova, G.I. Fedotova

DOI 10.25789/YMJ.2025.91.17

UDC 614.2:332.145:314.1(571.56/6)

THE CONCEPT OF A UNIFIED DEPARTMENTAL APPROACH TO THE MANAGEMENT OF QUALITY AND SAFETY OF MEDICAL ACTIVITIES IN THE REPUBLIC OF SAKHA (YAKUTIA)

The article devoted to the development of a concept for a unified departmental approach to quality and safety management of medical activities in the Republic of Sakha (Yakutia), examines issues related to the implementation and dissemination of practical recommendations of the National Institute for Quality of Roszdravnadzor. This can be achieved through the creation of an integrated system for managing the quality and safety of medical activities in subordinate medical organizations, based on the Regional Competence Center in the field of quality and safety management of medical activities.

The Regional Competence Center is a key element in the concept of the approach aimed at improving the management of quality and safety in medical activities. Its creation makes it possible to consolidate knowledge, resources, and efforts for the development and implementation of effective tools in the field of quality and medical care, as well as to disseminate best practices and existing experience.

The concept of a unified departmental approach to managing the quality and safety of medical activities is intended to create conditions for improving approaches to the organization of internal control over the quality and safety of medical activities. Its main idea is to develop measures aimed at the consistent and phased implementation of the practical recommendations of the National Institute for Quality of Roszdravnadzor in the medical organizations of the republic.

Keywords: competence center, quality and safety of medical activities, staff involvement, practical recommendations of Roszdravnadzor, internal quality control in a medical organization.

For citation: S.M. Tarabukina, S.N. Zhirkov, I.I. Vinokurova, G.I. Fedotova. The concept of a unified departmental approach to the management of quality and safety of medical activities in the Republic of Sakha (Yakutia). Yakut Medical Journal. 2025; 91(3): 67-70. https://doi.org/10.25789/YMJ.2025.91.17

TARABUKINA Sardana Makarovna – Doctor of Pharmaceutical Sciences, Professor of the Medical Institute of FSAEI HE 'M.K. Ammosov North-Eastern Federal University', tcmx@mail.ru; Republican Hospital No. 1, National Center of Medicine: **ZHIRKOV Stanislav Nikolaevich** – CEO, rb1ncm@gov14.ru; **VINOKUROVA Inna Ivanovna** – deputy CEO for Organizational, Methodological, and Preventive Work, innavin@mail.ru; **FEDOTOVA Galina Igorevna** – director of the Consultative and Diagnostic Center, FedotovaGI@inbox.ru

Introduction. Ensuring the quality of treatment and patient safety is the most important component of the activities of medical organizations. As many researchers emphasize, treatment quality and patient safety are inseparable and mutually complementary scientific and practical categories, while patient safety itself is a comprehensive concept that integrates advanced educational, clinical, and management technologies aimed at preventing adverse treatment outcomes, based on their internal interconnections and shared development prospects [4]. This is reflected in many strategic documents dedicated to the development of healthcare, ranging from individual medical organizations to federal subjects and the country as a whole. In the republic, there is a need to establish a holistic departmental system for quality and safety management, taking into account contemporary challenges and aimed at consolidating avail-