

Професійне вигорання медичних працівників: ознаки, причини, профілактика і лікування

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Вступ. У статті представлено огляд та аналіз наукових праць з проблеми професійного вигорання у медичних працівників. Двома важливими показниками ефективності організації охорони здоров'я є попередження професійного вигорання медичних працівників та якість наданої медичної допомоги.

Метою цього огляду є аналіз наявної наукової інформації та узагальнення даних щодо профілактичних заходів для запобігання професійного вигорання медичних працівників.

Методи. Проаналізовано повнотекстові статті, опубліковані в базах даних E-Library, CrossRef, PubMed, Web of Science, Scopus для систематизації даних про заходи, спрямовані на запобігання професійного вигорання медичних працівників. Крім того, було проаналізовано кілька ранніх публікацій, що становлять історичний інтерес.

Результати. Проаналізовано основні симптоми та чинники, які викликають професійне вигорання у медичних працівників, у тому числі лікарів, які борються з наслідками пандемії COVID-19 та військових лікарів. Встановлено як його причини, так і наслідки. Професійне вигорання можна охарактеризувати як поєднання психосоматичних і соматичних розладів, а також симптомів соціальної дисфункції. Профілактичні заходи проти професійного вигорання повинні охоплювати широкий спектр причин і включати різні засоби лікування. Водночас визначення точних причин професійного вигорання у медичних працівників має стати першочерговим напрямком.

Висновок. Необхідно фінансувати методологічно обґрунтовані дослідження професійного вигорання у медичних працівників. Якщо питання профілактики професійного вигорання не буде вирішено на державному рівні, це поставить під загрозу стабільність функціонування всієї системи охорони здоров'я.

Ключові слова: медичні працівники, COVID-19, синдром вигорання, симптоми та причини вигорання, профілактика вигорання.

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Professional Burnout in Healthcare Workers: Signs, Causes, Prevention and Treatment

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Introduction. The article provides a review and analysis of scientific works on the issue of professional burnout in healthcare workers. The two important indicators of the health organization's efficiency are the prevention of professional burnout in healthcare workers and the quality of provided medical care.

This review aims to analyze the available scientific information and summarize the data on preventive measures to prevent professional burnout in healthcare workers.

Methods. The full-text articles published in the databases E-Library, CrossRef, PubMed, Web of Science, and Scopus were analyzed to systematize the data on measures aimed at preventing professional burnout in healthcare workers. Moreover, a couple of earlier publications of historical interest were analyzed as well.

Results. The core symptoms and factors that trigger professional burnout in healthcare workers were analyzed, including doctors, dealing with the consequences of the COVID-19 pandemic and military physicians. Both its causes and consequences were determined. Professional burnout can be described as a combination of psychosomatic and somatic disorders, as well as symptoms of social dysfunction. Preventive measures against professional burnout have to cover a wide range of causes and include various treatment tools. Meanwhile, determining the exact causes of professional burnout in healthcare workers should become the top priority direction.

Conclusion. Methodologically sound studies of professional burnout in healthcare workers should be financed. If the issue of professional burnout prevention is not resolved at the state level, it will jeopardize the sustainability of the entire healthcare system's functioning

Key words: Medical professionals, COVID-19, burnout syndrome, symptoms and causes of burnout, prevention of burnout.

Introduction. According to the International Classification of Diseases (ICD-11), professional or emotional burnout syndrome (PBS) in healthcare workers results from chronic stress at work. It is not classified as a disease or a health condition. It develops as a result of the accumulation of negative emotions and leads to exhaustion of emotional, energy, and personal resources. PBS is characterized by the feeling of energy depletion and exhaustion, mental distance from one's job, feeling of negativism or cynicism related to one's job, as well as decreased professional efficiency. Early signs and symptoms of PBS were described for the first time in 1974 by American psychiatrist H. Freudenberger, who also suggested preventive measures against burnout. He defined PBS as the mental state of healthy people who work in the «person-to-person» system intensively providing professional care and keeping in close contact with patients in need of long-term and palliative care [1, 2].

Doctors are exposed to high levels of stress and are particularly prone to burnout when performing their professional duties. Burnout has far-reaching consequences for doctors, patients, and the healthcare system. Doctors suffering from burnout have a higher risk of exhaustion, dehumanization of interpersonal professional relationships, reduction of personal and professional accomplishments, as well as making more medical errors. Burnout in doctors also increases the risk of depression, anxiety, sleep disorders, fatigue, alcohol and drug abuse, marital dysfunction, early retirement, and even suicide [3].

According to the survey conducted in the USA in 2019, approximately 44% of doctors experienced PBS at work, and 15% of doctors suffer from depression and suicidal thoughts [3].

PBS in doctors is caused by too many administrative tasks and a long stay in the workplace. Other factors listed by doctors include poor financial compensation and feeling that the work does not bring recognition. At least one doctor commits suicide in the USA every day. This is the highest rate among all the professions. Moreover, it is twice higher than the average suicide rate in the population of the country [3]. Significant symptoms are observed in 35–54% of nurses and doctors and 45–60% of medical students [4, 5].

The detection rate of professional burnout syndrome in healthcare workers around the globe ranges from 20% to 75%. Thus, according to the literature on this issue, 46% of doctors in the UK [6], 31.4% of doctors in Hong Kong [7], 50% of pediatricians in Brazil [8], as well as 42.4% of doctors and 25% of interns in France are diagnosed with the professional burnout syndrome [9,10]. In China, 56.6% of obstetricians and pediatricians showed signs of professional burnout [11].

Oliinyk O. et al. (2019) found out that in Ukraine, the symptoms of burnout can be found in 82% of anesthesiologists with work experience under 5 years and 84% of doctors having working experience above 20 years. These groups showed a high level of emotional burnout according to the Maslach scale. Anesthesiologists with work experience ranging from 5 to 20 years showed a moderate level of emotional burnout. A high level of depersonalization was detected in people with work experience ranging from 5 to 20 years. Doctors having work experience under 5 years and over 20 years showed a moderate level of depersonalization [12].

This review aims to analyze the available scientific information and summarize data on preventive measures to prevent emotional and professional burnout in healthcare workers.

Research methodology. A search for the full-text articles published in databases, Cross-Ref, PubMed, Web of Science, and Scopus was conducted using the keywords «medical workers», «COVID-19», «burnout syndrome», «symptoms and causes of burnout», «prevention of burnout» and their combinations. Three authors independently searched scientific databases to analyze and review entire papers that met the inclusion criteria. As a result, from an initial search of 410 articles, 73 studies met full criteria and were included in this review. Moreover, a couple of earlier publications of historical interest were analyzed as well. In the first stage, titles and abstracts of the studies were examined through which interventional studies on physicians and nurses' burnout were included. Noninterventional studies, abstracts of conferences, book chapters, and letters written to editors were excluded in this study.

Professional burnout syndrome in healthcare workers eliminating the effects of the COVID-19 pandemic

The spread of COVID-19 has caused radical changes in healthcare systems around the globe. The implementation of radical social restrictions, including quarantine and lockdown, has affected people's quality of life. Changes in the daily life rhythm and restrictions on social relationships have led to severe deformation of the mental state of the majority of people. According to the data provided by Naldi, A. et al. (2021), emotional distress during the COVID-19 pandemic was associated with numerous stress factors, including uncertainty about one's health, as well as social and financial consequences. A considerable share of the population suffered from the symptoms of anxiety, depressive disorders, suicidal ideation, and trauma-associated symptoms [13].

Healthcare workers (like all the population) are exposed to stress factors associated with eliminating the effects of the pandemic. This leads to severe mental stress, which is followed by emotional and professional burnout [14]. One may take as an example the healthcare system of Northern Italy, which became the European leader by the spread of COVID-19 in March 2020. Healthcare workers of this region were for the first time affected by the full range of stress factors caused by the pandemic. They faced an unexpected increase in workload, intense working shifts, and changes in work schedules. Combined with the lack of clear infection treatment guidelines and protocols, all this led to physical exhaustion and feelings of uncertainty, loneliness, and alienation [13, 15].

The crossover study by Naldi, A. et al. (2021) involved 797 healthcare workers who were eliminating the effects of the pandemic in Turin. The authors of this study assessed emotional response, the prevalence of anxiety, distress, and burnout, as well as differences between professions. They also identified potential psychosocial factors related to family and work. The results have shown that 618 participants (77.5%) were experiencing constant anxiety, and 478 healthcare workers (60%) reported symptoms of distress. A significant number of these healthcare workers suffered from severe symptoms of anxiety (23.3%) and stress (35.9%). Signs of professional burnout

were detected in 324 healthcare workers (40.7%) who showed a high level of emotional exhaustion, 241 (30.2%) showed a high level of impersonality, and 290 (36.4%) felt a low level of personal accomplishments. Stratification by the severity level of anxiety and professional burnout symptoms showed no difference between doctors and nurses. However, nurses were more prone to experiencing emotional pain as compared to doctors [13, 16, 17].

The connection between a greater proneness of nurses to feeling emotional pain and COVID-19 may be associated with a higher susceptibility to infection they experience due to closer and more permanent relationships with patients. Therefore, one should take into account the vulnerability of nurses when taking preventive measures to protect them from getting mental traumata during the pandemic [18].

In terms of gender, women were more prone to developing symptoms of anxiety and distress, while depersonalization was more commonly found in men. Even if gender differences in burnout are unclear (especially during the pandemic when there is only limited data available), the tendency towards the significant level of depersonalization in men has already been reported [19]. Hence, the application of individual approaches to increase the resilience of healthcare workers (i. e. ensuring an adequate working rhythm, using clear operational protocols, and providing psychological support services) can be useful for lowering the burnout level [20].

The COVID-19 pandemic posed a challenge to medical staff within the general framework of the healthcare system, resulting in unprecedented levels of stress and anxiety [21, 22, 23]. Having faced the unique stress factors at work, the medical staff of emergency departments may be particularly vulnerable to the deterioration of mental health during the pandemic. Rodriguez R.M. et al. (2021) assessed the symptoms of anxiety and professional burnout, as well as the risk of post-traumatic stress disorder (PTSD) in the staff of emergency departments (ED) in the hospitals in 20 geographic regions of the USA, including nurses and non-clinical staff (e. g. office workers and other people who do not normally contact with patients). There were 1,606 participants

in total. Nearly a half of them (46%) reported symptoms of emotional exhaustion and burnout from their work. Moreover, 19.2% of respondents assessed the increased risk of PTSD positively [24]. The authors concluded that during the COVID-19 pandemic, all ED staff had symptoms of anxiety, emotional exhaustion, and burnout. Furthermore, about 1/5 of the staff had the risk of PTSD. The authors believe that future work should be focused on organizational efforts to prevent pandemic-associated stress as much as possible by means of rational organization of work and workplace support for the staff. Since medical staff keeps fighting this pandemic at the forefront, it is highly important to explore ways to mitigate the long-term effects of chronic stress [24,25].

Professional burnout syndrome in military doctors

The burnout in military doctors is a growing concern in the medical community. In the modern conditions of local armed conflicts, the requirements to both qualification of military healthcare workers and their productivity are as high as possible. It is possible provided that military doctors have the mental resilience to the development of negative conditions caused by stress during the performance of their duties. Tregoning C. et al. (2014) define resilience as the «ability to bounce back or recover from stress». It is also often called endurance, buoyancy, or mastery of stress management mechanisms. Professional duties of military healthcare workers presuppose a high level of responsibility for both life and health of wounded, injured, and sick servicemen. To perform them, a military doctor is often required to make urgent decisions, be self-disciplined, be able to keep high performance in extreme conditions, give an emotional response, as well as experience constant mental and intellectual stress. All these factors can lead to the exhaustion of both mental and physical resources and, consequently, to professional burnout [26, 27]. It is particularly true in extreme situations, as there may be instantaneous mass casualties in the course of military actions. In those cases, military doctors will define the order of medical care provision by means of the so-called sorting method. They will have to determine cases when the care should be provided in the first turn, and cases when there is no sense in providing it at all.

In the study by Saiko O. V. (2019), 30 military doctors were interviewed (26 men and 4 women), who serve at the military mobile hospital of the Armed Forces of Ukraine. The interviewed doctors have clear asthenic manifestations. The average rate according to the asthenic state scale is 75.2, which corresponds to the moderate level of asthenia. The average rate is 76.4 for women (moderate level of asthenia) and 54.1 for men (mild level of asthenia) [26].

The test of military doctors according to Zung self-rating depression scale has shown their predisposition to depression at the sub-depression level in the twelfth month of service in the warfare area. It is mostly the case with female doctors. It was found that psychosomatic manifestations of burnout include malaise, shortness of breath, nausea, dizziness, insomnia, hyperhidrosis, tremor, heart discomfort, and blood pressure fluctuation. The transition of reactions from the level of emotions to the level of psychosomatic disorders shows that the emotional defense mechanism cannot cope with constantly high loads, and at this stage, it is inevitably manifested by physiological disorders [26, 28].

A high level of burnout among military doctors can be observed in the U.S. Army. The crossover study of burnout in medical teachers in servicemen training programs of the graduate medical education (GME) in the USA conducted by Summers SM, et al. (2019) has shown that 26% of faculty members in military GME programs experience burnout. There were significant variations in the prevalence of burnout depending on gender, speciality, institution, military rank, field of service, and work experience. Among the specialities with at least 15 respondents, the highest prevalence of burnout was found in emergency medicine (40%), general surgery (34.5%), and critical care medicine (31.6%). The lowest one was in ophthalmology (11.1%), pediatrics (17.8%), and radiology (18.2%). The level of burnout did not differ significantly between the military categories and was approximately on the same level among doctors in the U.S. Army (27%), Navy (34%), and Air Force (23%). Burnout among the GME faculty members puts the quality of GME functioning at risk, taking into account the central role of these teaching officers in the training and development of young

military doctors. It was found that the most crucial factors causing burnout include: a large number of bureaucratic tasks (24.9%), the lack of support from the administration (17.2%), excessive requirements of the administration concerning the level of productivity and quality (10.6%), the risk of being relocated every few years (7.4%), the lack of recognition for a well-done work (3.5%), tense work schedule (2.3%), and frequent deployments (1.9%) [29].

The study conducted by Williams BJ. et al. (2020) analyzed the prevalence of burnout and its impact on the success level of 30 cadets taking a 4-year training program for military doctors for the U.S. Army. A survey was the main tool used to assess the level of burnout. The survey has shown that 10% of cadets had emotional burnout, and 73% of cadets had a high risk of burnout [30]. The study of the prevalence of burnout in military surgeons at the U.S. Army Medical Center has shown that the burnout rate was 7.7%. Moreover, 25.6% of surgeons were at risk of burnout. The anonymous e-survey consisted of the following questions: a demographic section that included questions about a current relationship, working time, history of deployments, debt for medical education, mentorship, and job satisfaction [31]. The survey conducted with 2,905 active members of the Society for Vascular Surgery has shown that 41% of respondents had at least one symptom of burnout, 37% confirmed that they had symptoms of depression during the last month, and 8% said that they thought about suicide during the last 12 months [32].

The psycho-diagnostic test conducted with medical officers of the Russian Federation Army has also shown that command, medical, and clinical activities performed by military doctors may lead to emotional fatigue, increased indifference, deformation of relations with servicemen, as well as a negative assessment of oneself and one's abilities to perform professional activities. Signs of professional burnout in doctors – clinical specialists and commanders of medical platoons (heads of military base medical services) were discovered in 9.3% and 9.4% respectively. A statistically significant relationship between the levels of professional burnout and the following relatively stable psychological personality traits were identified: excessive risk-taking,

sensation-seeking, auto- and hetero-aggression, inadequate self-esteem, unsociability, and presence of internal conflicts [33].

Elhadi M. et al. (2021) discovered that 65.6% of emergency doctors in Libya, the country suffering from the civil war, had a feeling of anxiety and 73.4% of doctors had the symptoms of depression. The fact that 67.5% of doctors experienced emotional exhaustion and 48.1% of doctors experienced depersonalization is evidence of the high risk of burnout [34].

Signs and causes of professional burnout in healthcare workers

Numerous studies have shown that key signs of PBS include emotional exhaustion, depersonalization, and reduction of personal achievements. They and their manifestations are presented in table 1 [35, 36, 37, 38].

Table 1

Key signs of professional burnout in healthcare and their manifestation

N	Key signs	Main manifestations	References
1	Emotional exhaustion	general practitioners general pediatricians, pediatric intensivists emergency physicians nurses military physicians vascular surgeons pharmacists emergency physicians surgeons	3; 7; 24;25; 8; 8; 9; 13; 16; 58; 30; 31; 33;34; 32; 38; 39; 49;
2	Depersonalization	general practitioners, general pediatricians, pediatric intensivists anesthesiologists nurses vascular surgeons pharmacists	6; 7; 15; 36; 8; 8; 12; 13; 15; 32; 38;
3	Reduction of personal achievements	general practitioners pediatric intensivists internal medicine physicians, obstetricians and pediatricians nurses military physicians, pharmacists emergency physicians surgeons	3; 5; 6;7; 8;15; 8; 10; 11; 16; 58; 30; 31;33;34; 38; 39; 49;

The causes of PBS lie in several domains: personal, organizational, and socio-economic. The consensus study report published by the Committee on System Approaches to Improve

Patient Care by Supporting Clinician Well-Being of the U.S. National Academy of Medicine provides the list of factors leading to PBS. The organizational factors like too tense work schedule, no professional growth, inappropriate working conditions, the atmosphere within the team, etc. (i. e. the work requirements of healthcare workers and resources for its provision) have the greatest impact on this. These factors refer to the organizational culture and administration policy of healthcare facilities, information technologies in healthcare, regulations, as well as excessive requirements to reporting and documentation. It is highlighted that the phenomenon of stigmatization is a separate factor, which prevents healthcare workers from seeking help and support [4].

Doctors were found to be biased and reluctant to talk about their mental state because they feared potential professional discrimination and consequences for both short- and long-term medical careers. This reluctance is mainly caused by fear of stigmatization and losing one's license in the future. Moreover, doctors tend not to disclose their mental state to obtain their medical license. Therefore, there is a need to improve strategies aimed at identifying mental health problems and resolving doctors' problems [39, 40, 41].

Additional factors leading to PBS include tense work schedule, inadequate salary, inability to influence the outcome (a patient may die despite the doctor's high qualification or due to other reasons beyond the doctor's control), working under threat of being punished or fired, excessive workload, and overtime. This is particularly true for oncologists. The study conducted by Blanchard P. et al. (2010) among French oncologists has shown that 44% of doctors had PBS. It is defined as a severely abnormal level. Emotional exhaustion and depersonalization (the key components of burnout) were found in 26% and 35% of doctors respectively. Severely abnormal levels of both emotional exhaustion and depersonalization were detected in 18% of doctors. Burnout was associated with the lack of adequate reward for one's work, lower perception of one's general health status, and the desire to quit medicine or change speciality. The high level of burnout among oncologists, probably, discourages vocations for oncology. Interventions are

needed, which may include support groups and training of stress management skills [42].

Głębocka A. and Lisowska E. (2007) explain the reasons for the emergence of PBS by Hobfoll's conservation of resources theory. Professional burnout is a complex set of different components. Emotional exhaustion, associated with depersonalization and feeling of lowered personal achievements, is the most important phenomenon that, presumably, triggers the entire process. A significant cause of burnout is the loss of resources. According to Hobfoll's conservation of resources theory, PBS is defined as a process of expenditure, loss, and exhaustion developing gradually over time. It occurs when there is no restoration of the resources in the form of cognitive, emotional, and physical abilities. The demanding attitude of patients, lack of social support, and psychophysical fatigue constitute only a few causes of PBS in doctors [43].

The causes of burnout in professionals who work in the «person-to-person» system, including doctors, were studied by Bochaver K. A., et al. (2019). They determined the following main causes of PBS:

- too high requirements to a worker, which do not correspond to his/her actual capabilities and skills. Consequently, the feeling of inability, self-criticism and resistance to self-realization emerge;
- freedom restrictions – strict norms and prohibitions imposed by authorities or regulations of the organization, which trigger the feeling of uselessness, spite, and irresponsible attitude to one's duties;
- reward does not meet the expectations of the worker, who subjectively evaluates his/her work and contribution to the common cause significantly higher. Consequently, disappointment, resentment emerge, as well as the devaluation of his/her activities and the activities of the organization as a whole;
- lack of support from colleagues, authorities, and subordinates. Consequently, the worker feels isolated and misunderstood, he/she has difficulties communicating and resisting working in teams;
- lack of merit recognition, humiliation, bullying, and discrimination, which are often faced by professionals working in the «person-to-person» system;

- discrepancy between moral and ethical principles of the specialist and the tasks he/she is required to do as a part of his/her professional activities (it may be the case with police officers, servicemen, rescuers, and doctors) [44,45].

Modern methods to prevent professional burnout in healthcare workers

The European Agency for Safety and Health at Work (EU-OSHA) estimated that the annual economic cost of stress disorders in the EU constituted around 20 billion euros, indicating that PBS leads to a severe decline in the quality of patient care and huge economic expenditures by the healthcare system. Similar losses were estimated for other Western countries. Although various methods of preventive and therapeutic measures among different professions (including healthcare workers) have already been studied, it is still unknown what measures are the most efficient ones. Currently, there is not enough data on preventive and therapeutic measures against burnout in doctors to recommend any specific interventions. Therefore, the need to study efficient methods of preventive and therapeutic measures is a top priority [46].

The analysis of available sources has shown that all types of preventive and therapeutic measures against PBS in healthcare workers can be divided into collective (group), individual and mixed ones. One of the types of collective methods of preventive and therapeutic measures is to eliminate the causes of stress at work. It is expected to provide long-term results [47]. This type of intervention aims at reducing the presence of stress factors using the following work procedures: task reorganization, social support, reduction of doctors' working hours, work evaluation, enhanced work control, and increased participation in the decision-making process. After taking those measures, doctors felt more satisfied with their work and were less exhausted [48, 49, 50,51].

Learning how to communicate with team members, as well as emotional awareness and emotion management training reduce PBS by maintaining proper relationships between team members. In some hospitals, some trainings were held based on cognitive-behavioral approaches, such as time management,

relaxation techniques, breathing concentration, meditation techniques, self-awareness training, and maintaining a healthy approach to the work environment [52, 53, 54, 55].

Individual preventive and therapeutic measures against PBS in healthcare workers can be adapted to the needs of people who currently experience burnout [56]. Individual interventions are primarily aimed at increasing professional competencies and skills to overcome stress or enhancing resilience by employing better control over negative emotions and relaxation exercises [57]. The studies involving participants of the training program dealing with negative emotions proved to be efficient in reducing negative and increasing positive effects for various pathological conditions (e. g. anxiety, depression, or stress at work) [58].

Individual methods of preventive and therapeutic measures against PBS in healthcare workers are primarily aimed at increasing professional competencies and skills in overcoming or enhancing resilience by employing better control over negative emotions and relaxation exercises. Individual interventions (like yoga and meditation) have also lowered the level of emotional exhaustion, stress, and burnout in doctors and nurses significantly. People taking yoga classes reported a decrease in depressive symptoms after 8 weeks of training as compared to a control group [59, 60, 61,62].

Profit, J., et al. (2021) suggested a low-load interactive program (web-based implementation for the science of enhancing resilience – WISER) to permanently reduce burnout. This step-by-step program uses the updated versions of the substantiated evidence of interventions, which proved to be efficient in improving the state of health and decreasing depressive symptoms, and provides them via a mobile platform [63, 64, 65]. The WISER components are purposefully distributed consistently to ensure maximum engagement of participants and learning. The WISER components gradually encourage participants to define and produce positive emotions and then act to evoke them. Even though it was difficult to implement this initiative among employed healthcare workers, participation in the free intervention with a positive low-intensity psychology has reduced the level of burnout and depression, as well as

improved integration into the professional life for up to 6 months afterwards [66].

Yuan Z, et al. (2021) studied the results of the implementation of the effort-reward imbalance (ERI) model for the prevention of PBS in healthcare workers. ERI presupposes that workers experience burnout at work in case the efforts they make (e. g. time, energy, and responsibility) do not match the reward they receive (e. g. remuneration, respect, and professional opportunities). The ERI model summarizes the most important external factors of the working environment based on the theories of reciprocity and justice. Emotional motives behind excessive devotion are the fear of losing control over one's work and the desire to have one's work evaluated properly. People have unrealistic expectations for their work and make inadequate efforts. Therefore, they experience the prolonged deformation reactions leading to PBS. Measures aimed at lowering the PBS level should include higher compensation, promotion opportunities, shorter working day, and personal resilience enhancement [67].

Individual methods of preventive and therapeutic measures against PBS in healthcare workers (e. g. smart stress management and cognitive behavioral therapy) can contribute to personal resilience enhancement. This can improve the negative state of specialists, assist them in getting rid of emotional pain, and keep energy in their circumstances [68].

However, individual intervention strategies focused on a person provide only a short-term reduction of burnout (up to 6 months), while mixed interventions focused on both personality and work of healthcare workers have shown more long-lasting positive effects (over 12 months). In any case, the positive effect of interventions decreases over time. The combination of both types of interventions should be additionally studied, optimized, and practiced. Healthcare facilities should admit such a need and launch intervention programs to prevent burnout in healthcare workers [69, 70, 71, 72,73].

Regardless of what specific methods to prevent professional burnout in healthcare workers are applied, this problem should be considered as a joint responsibility of each healthcare facility and each healthcare worker.

Conclusions

Two important indicators of the health organization's efficiency are the prevention of professional burnout in healthcare workers and the quality of provided medical care. A clinical aspect of professional burnout in doctors is comprised of many factors. It can be described as a combination of psychosomatic and somatic disorders, as well as symptoms of social dysfunction. Doctors suffering from burnout have a higher risk of exhaustion, dehumanization of interpersonal professional relationships, reduction of personal and professional accomplishments, and making more medical errors resulting in the provision of medical care of lower quality. Both diversity and non-specific symptoms of burnout syndrome show the need for an interdisciplinary approach to its diagnosis and treatment.

Preventive measures against professional burnout in healthcare workers have to embrace a wide range of causes and include various treatment tools. In the modern conditions of the COVID-19 pandemic, severe increase in both the number and scale of natural disasters and local military conflicts, it is necessary to provide a broader implementation of social support measures, to train interpersonal skills, to improve communication skills to overcome negative emotions and use relaxation techniques to overcome specific professional stress situations. When it comes to professional burnout, it is better to prevent this condition than treat it. Meanwhile, determining the exact causes of professional burnout in healthcare workers at all the stages of their professional and everyday lives, as well as the impact of professional burnout on doctor efficiency and patient safety should be made the top-priority directions.

Nowadays, both the healthcare system and scientific community have a single task – to determine an optimal working mode for healthcare workers, which will ensure their high efficiency but will not lead to professional burnout resulting from prolonged nerve and mental tension. It is necessary to finance methodologically sound studies and, based on their results, take efficient measures to eliminate professional burnout in healthcare workers. If the issue of preventing professional burnout in healthcare workers is not resolved at the state level, it will jeopardize the sustainability of the entire healthcare system's functioning.

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