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# THE PROBLEM OF OCCUPATIONAL STRESS OF PEDIATRICS IN PANDEMIC CONDITIONS

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**ABSTRACT.** An important outcome of the COVID-19 pandemic has been a decrease in the quality of life of medical workers. Numerous studies concluded that medical workers acquired emotional and physical problems as a result of overload and severe stress during the fight against coronavirus. This article describes the results of a survey of medical workers on the leading factors of occupational stress during the pandemic, highlighting relevant strategies for overcoming occupational stress marked by respondents themselves, and analysis of the most valuable factors of their professional activities that helped them overcome stress. Also, as part of the study, an assessment was made of the emotional state and quality of life of the COVID department employees, the level of manifestation of various symptoms of professional maladjustment and a tendency to develop addictive behavior. Employees of the department for children with the new coronavirus infection COVID-19: ward doctors, nurses and junior medical staff took part in the survey. More than half of the respondents mentioned factors of professional maladjustment among which are mainly physical ailments and certain emotional problems. The department employees note the need to revise the work schedule to reduce fatigue and have identified various factors that are most significant for them at work, which help to overcome difficulties and stress. A decrease in quality of life indicators was reported in 38.5% of doctors and 52.4% of nurses. 62% of respondents revealed a pronounced tendency to various addictions, to a greater extent to love addiction, workaholism, dependence on particular food and a healthy lifestyle.

**KEY WORDS:** coronavirus infection; COVID-19; doctors; occupational stress; quality of life; addictions.

# ПРОБЛЕМА ПРОФЕССИОНАЛЬНОГО СТРЕССА ПЕДИАТРОВ В УСЛОВИЯХ ПАНДЕМИИ

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**РЕЗЮМЕ.** Важным последствием пандемии новой коронавирусной инфекции COVID-19 стало снижение качества жизни медицинских работников. Множество исследований констатировали наличие у медицинских работников эмоциональных и физических проблем, появившихся в результате перегрузок и сильного стресса в период борьбы с коронавирусом. В данной статье описаны результаты опроса медицинских работников на предмет ведущих факторов профессионального стресса в период пандемии, выделены актуальные стратегии преодоления профессионального стресса, которые отмечали сами респонденты, и проведен анализ наиболее ценных для них факторов в профессиональной деятельности, помогающих преодолевать стресс В рамках исследования также была проведена оценка эмоционального состояния и качества жизни сотрудников ковидного отделения, уровня проявлений у них различных симптомов профессиональной дезадаптации и склонности к формированию зависимого поведения. В проведенном исследовании приняли участие сотрудники отделения для детей, больных новой коронавирусной инфекцией COVID-19: врачи отделения, средний и младший медицинский персонал. Более половины респондентов упомянули факторы профессиональной дезадаптации, среди которых в основном физическое недомогание и некоторые эмоциональные проблемы. Сотрудники отделения отметили необходимость пересмотреть график работы для снижения усталости и выделили различные наиболее значимые для себя факторы в работе, которые могут помочь преодолевать трудности и стресс. Снижение показателей качества жизни выявлены у 38,5% врачей и 52,4% среднего медицинского персонала. У 62% респондентов выявлена выраженная склонность к различным зависимостям, в большей степени к любовной зависимости, трудоголизму, зависимости от пищи и здорового образа жизни.

**КЛЮЧЕВЫЕ СЛОВА:** коронавирусная инфекция; COVID-19; врачи; профессиональный стресс; качество жизни; зависимости.

According to the World Health Organization (WHO), viral diseases pose a serious public health challenge. Experts note the need for organizational measures to create conditions for providing assistance in the context of COVID-19, especially in the presence of concomitant diseases [4, 11]. According to many studies, the pandemic did not reveal specific features, but only aggravated problems in the healthcare environment: insufficient prestige of the profession, instability and insufficient wages, lack of support both from management at various levels and from patients, relatives and society as a whole. Additionally, one can highlight the fear of criminal prosecution and problems with prescribing the correct treatment in the absence of some of the necessary drugs and lack of time, as well as constant overwork [3].

A special problem is providing care to children with coronavirus infection in a hospital setting. According to WHO data, most children and young adolescents are ill in asymptomatic and mild forms, however, in severe forms of the disease, as well as for children with concomitant pathologies, various complicated forms of the disorder are characteristic. According to different sources, in 2020-2021 in the Russian Federation, COVID-19 was diagnosed in 7,6-8,6% of children [5, 10]. The illness is especially severe in young children, as well as in the presence of concomitant pathologies [4, 5]. Yu.S. Aleksandrovich and co-authors noted the difficulties of treatment in the absence of clearly effective treatment protocols, the need to take into account the individual characteristics of the child's disease and the lack of reliable data on the effectiveness and safety of specific drugs [1].

The stressful nature of the work of doctors during a pandemic is noted not only in national medicine. According to studies in various countries, from 8,9 to 50,7% of health workers reported symptoms of depression, from 18,1 to 44,7% experienced anxiety, sleep disturbances were noted by 21,9–36,1% of respondents, excessive exposure to stress — from 6,6 to 71,5%, symptoms of post-traumatic stress disorder — from 7,7 to 49,5% of doctors. 36,0% of medical personnel had subthreshold mental health disorders, 34,4% had mild disorders, 22,4% had moderate disorders, and 6,2% had severe disorders [10].

According to an anonymous national survey of physicians and nursing staff, almost 30% of specialists working directly with coronavirus patients are close to dismissal due to fatigue, and 37% have health problems due to emotional exhaustion. Another 58,1% responded that they "go to work with interest, but are generally tired", 27,7% of doctors from "red zones" and 31,9% of nurses working with them "often think about dismissal" due to fatigue and overload or "close to it", 29,3% of medical workers note the presence of moderate and severe anxiety, and 8,3% — symptoms of moderate and severe depression according to the Beck Depression Inventory; 6,7% noted the presence of suicidal ideations; 35% recorded a high level of emotional exhaustion. Almost 42% of respondents in this group said that managers do not support them financially or emotionally, and they do not feel supported by their superiors. Practically all medical workers surveyed believe that their fatigue affects their patients; they note an excessively large amount of work and difficult working conditions, and the need to work without taking off a protective suit. At the same time, what upsets the staff most is the "indifference of management" [7].

According to research by O.A. Ovsyanik, the main problems of working in the conditions of the pandemic are related to changes in the usual rhythm of life and the inconvenience from the forced wearing of personal protective equipment (sweating glasses, diapers, lack of individualization due to suits, etc.). A condition of severe depression was reported by 28,6% of people, while anxiety about working during a pandemic is typical for 21,4% of medical workers, 85.7% worry about the health of their relatives, 60% worry about the health of patients, and about changes in the epidemiological situation in the city -61,4%. Anxiety is more common among physicians aged 35–40 years, and least common among doctors

aged 50–60 years. Specialists with extensive work experience and who are accustomed to taking reasonable risks in the workplace view the pandemic situation as a whole positively, as regular and surmountable. A.B. Kholmogorova also believes that the risk group is represented, first of all, by medical workers who are unsure of their professionalism and have not realized themselves as specialists, according to her data, and 54,7% of doctors name as factors of distress the anxiety for family members and 38,3% — fear of infection [9].

#### **RESISTANCE TO STRESS FACTORS**

According to O.A. Ovsyanik, as typical ways to relieve stress, 58,6% of doctors indicated alcohol, 51,4% — sleep, 47,1% — smoking, the use of sedatives was named by 31,4% of respondents, sports — 17,1% (more typical for young physicians) [6]. Doctors use the familiar to them stereotypical methods of relieving tension.

On researches of A.V. Aleshicheva, a comparative analysis of the indicators of doctors of 13 different specializations working during the pandemic, revealed that pediatricians are less prone to manifestations of pathopsychological symptoms (in particular, a tendency to phobic experiences, more typical for medical professionals of other specializations), have lower levels of depression and regularly use moderate physical activity (fitness, yoga, running, dancing, nordic walking) [2].

### THE PROBLEM OF PROVIDING ASSISTANCE TO DOCTORS DURING A PANDEMIC

On the one hand, medical workers admit that they regularly receive social benefits, have extended insurance guarantees, and note the help of students of medical colleges and universities and volunteers. However, they draw attention to the need of the population and the state for greater social respect for representatives of their profession, in particular "increasing public respect for the profession", "thank you posters, articles and stories" about doctors [9]. The quality of support from relatives, colleagues and administration helps medical personnel maintain a sense of the significance of their profession and self-respect as a professional [12]. These results are confirmed by our previous study [6].

According to the results of a survey of Russian doctors, 87,7% believe that medical workers providing care to patients with COVID-19 need psychological support [10]. At the same time, various programs of psychological assistance to healthcare professionals that appeared at the beginning of the pandemic turned out to be of little demand. Doctors themselves are used to controlling the situation and believe that they know how to cope with it. The need of physicians for psychological help is recognized by 90% of respondents, while the majority are skeptical about individual work with a psychologist, pointing to a lack of time and preferring the usual self-control and the use of pharmacotherapy, and doctors view a psychologist more as an assistant in helping patients and their relatives [8, 9]. As the study showed, improving working conditions could help cope with fatigue and burnout: "comfortable staff rooms", "the opportunity to comfortably eat and relax during breaks", as well as reducing workloads, providing staff with more effective protective equipment, measures to reduce the level of physical discomfort associated primarily with the use of personal protective equipment and lack of sleep. Physicians also need to carry out measures for psychological relief, explain to staff the meaning of all measures and decisions taken and collegial discussion of the organization of work.

The correlation between statistical indicators confirms the importance of organizational measures. The doctors surveyed consider the following to be the main resource for psychological well-being: provision of personal protective equipment in the workplace — 92,9%; support from relatives and friends -78,6%; management support -61,4%; decent attitude of society — 25,7%; material support — 22,9%; physical activity — 19.3% and legal support — 11,4% [9]. The organizational factors that reduce the level of distress were identified, first of all: information from management about the current situation and tasks; support from family and colleagues; financial incentives and the opportunity to take rest breaks.

After the pandemic, professionals would like to return to their usual duties and work in an area where they are more competent. They don't think that the pandemic has changed them in any way; they consider their attitude to work as usual. Perhaps such an assessment is associated with denial of the problematic situation and reluctance to acknowledge existing personal difficulties.

### MATERIALS AND METHODS

Employees of the department for children with the new coronavirus infection COVID-19: ward doctors (n=13), nurses (n=21) and junior medical staff (n=7) took part in the survey. For psychological diagnostics were used: the Hospital Anxiety and Depression Scale (HADS); the questionnaire for the assessment quality of life SF-36; the questionnaire for the assessment of the manifestations of professional maladaptation O.N. Rodina; methodology for diagnosing the tendency to 13 types of addictions G.V. Lozovaya; author's questionnaire for occupational stress N.V. Kozina and A.V. Lakomskava. The results were processed using the statistical application package SPSS Statistics (version 17.0). Descriptive statistics and the nonparametric Mann-Whitney U test for independent samples were used to analyze the results. Quantitative data are presented depending on the normal distribution as M±SD.

## RESULTS

The new coronavirus infection COVID-19 pandemic has made significant adjustments to the work of doctors, challenging their adaptive capabilities. In the new conditions, medical workers were faced with a strong and prolonged exposure to the external environment, which could not but affect a person's attitude towards their work and profession as a whole.

As part of the socio-demographic survey, respondents were asked to answer open-ended questions that were focused on research into occupational stress factors during the pandemic and comparison of this experience with work in the pre-COVID-19 period. The questions were also aimed at identifying coping strategies that are relevant for health workers and at the most significant conditions in professional activity that help overcome occupational stress.

In the group of doctors, among occupational stress factors that cause the greatest distress during the pandemic, the majority of respondents point to a large amount of paperwork, increased workload, rudeness of patients' parents, as well as the difficulties of interaction within the team at the time of a pandemic. Outside of work, specialists are forced to allocate time to plan and organize the next working day and analyze the characteristics of the patients' condition. Compared to past work experience they indicate at the moment a change in position and an increase in workload. Compared to their colleagues, they rate themselves as more balanced.

As coping strategies, physicians indicate in the questionnaire exclusively passive forms of recreation, mainly with the family, ignoring the importance of moderate regular physical activity for maintaining both physical and mental health and improving the quality of life [2]. To create the most comfortable environment at work, experts note the need to carry out activities aimed at team unity, assistance and peace of mind from management. Respondents also point to the need to reduce paperwork.

Doctors consider changing a work schedule or changing specialty to be significant factors in overcoming stress. Most of the subjects are satisfied with the wage and the work team, while the need to carry out activities aimed at improving interaction in the team, with management and parents of patients with the help of a fulltime psychologist is noted.

In the group of nursing personnel, among the occupational stress factors that cause the greatest distress during the pandemic, most respondents note an increase in workload and increased demands (both volume and complexity of work), as well as problems in organizing the work process, poor working conditions, unstable schedule, including difficulties in distributing duties during a work shift at the time of a pandemic, increased personal responsibility for work results. In addition, workers point out the rudeness of patients' parents and the difficulty of constantly working in personal protective equipment. Employees tend to analyze problematic aspects of the past working day. Compared to past work experience, they currently note positive changes: mastering new specifics of work, obtaining more skills and professional experience, career growth, increasing the efficiency of their work, as well as increasing wages; they assess themselves as balanced and capable of overcoming stress.

Among the strategies that help cope with stress, the majority of nursing staff prefer active forms of recreation (walking, sports, etc.), are aware of the need for a healthy lifestyle, but at the same time note the presence of certain difficult work shifts, after which they capable only of passive forms of life activity, prone to "emotional eating". They believe that to create the most comfortable environment at work, it is necessary to improve interaction with management (discussion of mistakes, help, understanding), as well as reorganize the work schedule for the purpose of a more orderly distribution of responsibilities, carry out activities aimed at uniting the team and improving working conditions for most comfortable work.

Among the significant factors for overcoming stress, nurses include the opportunity for career growth, improving the quality of their work and satisfaction with it, and the most significant factors are teamwork and stability of wages.

In the group of junior medical personnel, among the occupational stress factors that cause the greatest distress during the pandemic, those associated with various social restrictions (inaccessibility of some public places, inability to travel, the need to use personal protective equipment, etc.) were identified. Most subjects indicate an increase in workload. Employees are little inclined to analyze work situations and problems, and if they think, it's about the mistakes they've made. Compared to work in the pre-COVID-19 period, they indicate significant changes in the specifics of activities in the given workplace, and rate themselves as calm, patient, fast, reasonable.

Staff note the presence of difficult working days, accompanied by a decrease in activity, after which they require recuperation. Both active and passive forms of recreation are used to maintain good health.

Among the significant factors influencing overcoming stress, the majority of subjects indicate that they are satisfied with the organization of work, they would not like to change anything, and are generally satisfied with the work team. Nevertheless, they note the need to carry out activities aimed at improving interaction in the team. Many are interested in career growth.

Summarizing the results of the qualitative analysis of the questionnaires, the following points should be highlighted:

• The majority of respondents are satisfied with the work team, but at the same time

indicate the need to carry out activities aimed at uniting the team, including with the help of a psychologist.

- There is a need to improve relationships with management, more interaction and support from senior employees.
- It is necessary for doctors to create activities that allow them to develop active forms of recreation and stress relief, including during working hours. A joint analysis of work schedules and assistance in creating algorithms for filling out documentation is possible.
- For nursing personnel, reorganization measures are recommended to ensure a more streamlined distribution of responsibilities.

As part of the psychodiagnostic block of the study, respondents were asked four questionnaires. As the group of junior medical personnel turned out to be the smallest and, according to the methods used, its employees demonstrated the most favorable results, these data were not included in the description of the results of the psychodiagnostic examination.

According to the questionnaire for assessing manifestations of professional maladjustment, a statistically significant difference was found between the groups of doctors and nursing staff only on the scale "violation of the cycle sleepwake" (Table 1). Doctors more often and to a greater extent than nurses report complaints of lack of sleep and problems associated with it. However, it is important to note that, for the overall indicator, both groups of department employees have a moderate level of maladjustment, which characterizes risk groups.

A moderate level of manifestations of maladjustment is typical for 53% of doctors, and 15% showed a pronounced level of maladaptation, which undoubtedly requires the help of specialists and the organization of various measures to overcome stress. Professional maladjustment among physicians is more often manifested by signs of asthenia: sleep disorders, fatigue, and decreased general activity.

Among nursing personnel, 33% have a moderate of professional maladaptation and 19% have a pronounced level of professional maladjustment, which manifests itself in deterioration of health, as well as emotional lability, low mood and disruption of social interaction.

The complexity and intensity of the work of medical workers during the pandemic could not but affect their quality of life. Based on the results of a comparative analysis of data from the SF-36 questionnaire for the assessment quality of life, no statistically significant differences

Table 1

Questionnaire data for assessing the manifestations of professional maladaptation O.N. Rodina

Таблица 1

Scales / Шкалы	Doctors / Врачи	Nurses / Медсестры
Emotional shifts / Эмоциональные сдвиги	5,15±4	6,4±4,5
Features of individual mental processes / Особенности отдельных психических процессов	1,85±2	2,3±1,9
Decreased overall activity / Снижение общей активности	3,85±2,4	4,05±1,9
Feeling tired / Ощущение усталости	5,08±3,5	5,4±3,3
Somatovegetative disorders / Соматовегетативные нарушения	11,62±8,7	9,48±8
*Violation of the cycle sleep-wake / Нарушение цикла сон-бодрствование	9,23±2,9*	6,29±2,8*
Features of social interaction / Особенности социального взаимодействия	5,62±4,2	5,81±3,8
Decreased motivation to work / Снижение мотивации к деятельности	2,69±2,25	3,48±1,9
General indicator of maladaptation / Общий показатель дезадаптации	45,08±23,9	43,19±21,1

Данные опросника для оценки проявлений профессиональной дезадаптации О.Н. Родиной

\* p ≤0,01.

Table 2

#### Comparative analysis of quality of life indicators

Таблица 2

Health Status Survey SF-36 / Опросник качества жизни SF-36				
Scales / Шкалы	Doctors / Врачи	Nurses / Медсестры		
Physical Functioning — PF / Физическое функционирование	93,1±8,3	88,3±19,6		
Role-Physical Functioning — RP / Ролевое функционирование, обусловленное физическим состоянием	63,5±36,2	73,8±36,6		
Bodily pain — ВР / Интенсивность боли	70,4±26,2	71,5±22,4		
General Health — GH / Общее состояние здоровья	66,3±18,8	55,5±17,3		
Vitality — VT / Жизненная активность	55,4±22,9	52,4±19,9		
Social Functioning — SF / Социальное функционирование	70,2±26,8	67,3±19,9		
Role Emotional — RE /Ролевое функционирование, обусловленное эмоциональным состоянием	82,05±29,2	76,2±26,1		
Mental Health — МН / Психическое здоровье	60,6±20,6	53,3±21,5		

Сравнительный анализ показателей качества жизни

Note: bold font shows decreased indicators among respondents that are significant for qualitative analysis; they are then interpreted in the text. Примечание: жирный шрифт демонстрирует сниженные у респондентов показатели, значимые для качественного анализа, далее они интерпретируются в тексте.

were identified between the groups of doctors and nursing staff, which may indicate an identical assessment of the department's employees' own quality of life (Table 2). Quality of life indicators were assessed on a scale from 0 to 100, with low values below 51 points. During the qualitative analysis of the data, respondents were noted in whose results three or more scales for assessing the quality of life had low scores. There were 38,5% of such respondents among doctors, and among nursing staff — 52,4%.

Among physicians, a decrease is more often detected on the "role-physical functioning" scale, which indicates a significant limitation in the performance of daily activities (work, daily household duties) due to the physical condition of respondents, which is also associated with a decrease on the "general health" scales and indicates about doctors' low assessment of their health status at the time of the study. The "vitality" and "mental health" scales, included in the block of the psychological component of health, stand out for their low values, which may indicate the fatigue of doctors and a general decrease in their vital activity, as well as characterize the presence of depressive, anxiety and mental distress. The data obtained may be related to the intensity and complexity of the work and may be expressed, among other things, in the professional maladaptation described above.

Analysis of data in the group of nursing staff shows a greater reflection of negative influences on the component of psychological health, including a decrease not only in the "vitality" and "mental health" scales, as in doctors, but also in the "social functioning" scale. Low values in this context reflect a significant limitation of social contacts in the group of healthcare workers, a decrease in the level of communication due to the deterioration of physical and emotional condition.

According to the Hospital Anxiety and Depression Scale (HADS) (Table 3), with normative data among nursing personnel, 19% have a subclinical level of anxiety, and 19% have a clinical level of anxiety and a severe anxious clinical picture. In the group of doctors, 23% show subclinical values. The data obtained are comparable with studies of other authors, for example A.B. Kholmogorova et al. [12]. An interesting fact is that, despite the small number of respondents demonstrating emotional distress in the formal questionnaire, in the open-ended questions of the questionnaire, most of them noted such negative emotional experiences as irritability, low mood, and fatigue.

As is known, experiencing stressful situations and prolonged negative external influences often provoke the launch of psychological defense mechanisms in order to return a person to a state of peace and a sense of psychological

Р	7
h	1
U	1

Таблица 3					
Данные госпитальной шкалы тревоги и депрессии					
Respondents /	Anxiety /	Depression /	]		
Респонденты	Тревога	Депрессия			

Table 3

Респонденты	Тревога	Депрессия
Doctors (n=13) / Врачи	6,8±3,4	6,3±3,3
Nurses (n=21) / Медсестры	8,2±4,3	6,1±3,2

Hospital Anxiety and Depression Scale

safety. In order to achieve a state of psychological comfort, not the most productive methods, for example, the formation of addictive behavior, are often chosen. Addicted behavior is manifested by a persistent desire to change the psychophysiological state and, despite the different objects of addiction, forms of addiction have a similar psychological mechanism of formation. Since the specific nature of the work of health professionals involves a high level of stress and the risk of emotional burnout, the likelihood of addiction also increases.

According to the methodology for diagnosing the tendency to form addictions, 62% of respondents in each group have an average degree of general tendency to develop addictions (Fig. 1). The absence of statistically significant differences between groups of medical workers allows us to describe the results of general trends. The highest degree of predisposition manifests itself in love addiction (dependence on relationships with fixation on another person). In these relationships, a disproportionate amount of time and attention is given to the significant person, down to symbiotic attachment. Food addiction is also expressed (an eating disorder in which food is used as a means of escaping subjective reality). During stress, there is a desire to "eat" trouble. This is possible because fixation on taste sensations occurs and unpleasant experiences are repressed. Among other things, health workers tend to become dependent on work and a healthy lifestyle.

Work addiction can manifest itself in the quest to fixate on work situations; "going to work" becomes a way of avoiding concentration on current problems. One of the important features of work dependence is the irresistible desire for constant success and approval from others, combined with the fear of failure, being incompetent, and showing unprofessionalism in the eyes of colleagues and superiors. Workaholism not only stimulates stress, but also alienates from family and friends, increasing the degree of their own experiences.

Dependence on a healthy lifestyle can be expressed in excessive importance and focus on the health problem, which dominates the life values and interests of the individual. The overvalued nature of this orientation can manifest itself in various forms: in the desire for greater

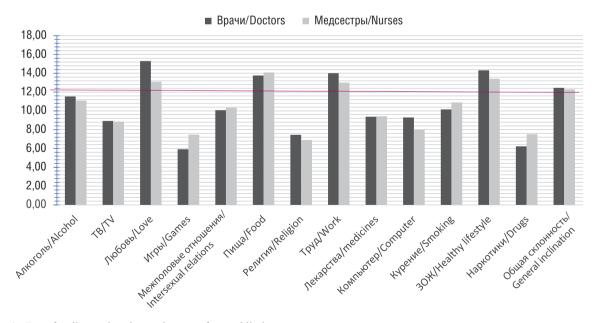


Fig. 1. Data for diagnosing the tendency to form addictions Рис. 1. Данные диагностики склонности к формированию зависимостей

awareness of health issues, the formation of strict attitudes regarding the individual picture of ideas about a healthy lifestyle (one's own and those of loved ones), and also in understanding the need to take care of health if it is impossible to implement it in this period.

It is important to take into account the fact that high scores in this questionnaire only reflect a tendency to develop addictive behavior.

# CONCLUSION

1. According to the survey results, the majority of respondents noted the need to revise the work schedule, streamline the mode of work and rest, and the desire for more intensive interaction with management and support from them. Among the significant factors helping to overcome stress, respondents indicated active forms of recreation, satisfaction with wages, communication in a team and the opportunity for career growth. The following were noted as proposals for qualitative changes: organizing activities to unite the team, improving relations with management and parents of patients with the involvement of a fulltime psychologist in solving these problems, as well as discussion and some reorganization of working conditions for the most comfortable in work.

2. More than half of the surveyed medical personnel noted factors of professional maladjustment. Among doctors, symptoms of physical ailment (lack of sleep, loss of strength, etc.) are more common, while nursing staff, in addition to physical symptoms, note the manifestation of maladaptive factors in the emotional sphere and social interaction.

3. Low values of more than three quality of life indicators were detected in 38,5% of physicians and 52.4% of nursing personnel. Respondents in both groups showed the lowest indicators of general health, vitality and mental health; nurses also showed a decrease in social functioning and an increased level of anxiety. These employees interact more frequently and intensively with patients during their professional activities and report impairments in social functioning.

4. All medical workers noted the high stress level of their work and the need to relieve tension. Various methods of achieving psychological comfort that are accessible and socially approved can act as a coping mechanism: delicious food, watching movies, going to the gym. However, shifting the focus from solving current problems to finding ways to regulate mood in order to restore emotional comfort ultimately does not help to understand problems and stressful situations, and can become a form of dependence. 62% of respondents have a pronounced tendency to various addictions, to a greater extend to love addiction, workaholism, dependence on food and a healthy lifestyle.

The extreme working conditions of medical workers during a pandemic require them to have a high degree of mobilization and dedication. Additional difficulties arise and working conditions become more complicated. Considering the high danger and prevalence of the new coronavirus infection, as well as the limited knowledge about it, it is necessary to study all aspects of the new disease to develop preventive measures, diagnostics, patient management strategies, disinfection, and rehabilitation measures.

The resolution of this problem depends on the ability of management and the specialists themselves to make mature and rational decisions, as well as on the introduction of special trainings and programs (both face-to-face and remote) that are designed to help health workers overcome the difficulties of psychological tension.

## **ADDITIONAL INFORMATION**

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

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## дополнительная информация

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Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи. **Источник финансирования.** Авторы заявляют об отсутствии внешнего финансирования при проведении исследования.

#### REFERENCES

- Aleksandrovich Yu.S., Baybarina E. N., Baranov A.A. i dr. Vedeniedetey s zabolevaniem, vyzvannymnovoykoronavirusnoyinfektsiey (SARS-CoV-2) [Management of Children with Disease Caused by New Coronaviral Infection (SARS-CoV-2)]. Pediatricheskaya farmakologiya. 2020; 17(2): 103–18. Available at: https:// cyberleninka.ru/article/n/vedenie-detey-s-zabolevaniem-vyzvannym-novoy-koronavirusnoy-infektsiey-sarscov-2 (accessed: 28.08.2022). (in Russian).
- Aleshicheva A.V., Samoylov N.G. Psikhologiche skoezdorov'e vracha v usloviyakh pandemii COVID-19 [Psychological health of a doctor's personality in the context of the covid-19 pandemic]. Vestnik Udmurtskogo universiteta. Seriya: Filosofiya, Psikhologiya, Pedagogika». 2021; 31(2): 179–185. Available at: https://cyberleninka.ru/article/n/psihologicheskoe-zdorovie-vrachav-usloviyah-pandemii-covid-19. DOI: 10.35634/2412-9550-2021-31-2-179-185. (in Russian).
- Gorenkov D.V., Khantimirova L.M., Shevtsov V.A. i dr. Vspyshka novogo infektsionnogo zabolevaniya COVID-19: β-koronavirusy kak ugroza globalnomu zdravookhraneniyu [An Outbreak of a New Infectious Disease COVID-19: β-coronaviruses as a Threat to Global Healthcare]. Biopreparaty. Profilaktika, diagnostika, lechenie. 2020; 20(1): 6–20. Available at: https://cyberleninka.ru/article/n/vspyshka-novogo-infektsionnogo-zabolevaniya-covid-19-koronavirusy-kak-ugrozaglobalnomu-zdravoohraneniyu (accessed 12.09.2022). (in Russian).
- Ivanov D.O., Aleksandrovich Yu.S., Orel V.I. i dr. Pandemiya koronavirusnoy infektsii: vyzov vysshemu meditsinskomu obrazovaniyu i reagirovanie [The COVID-19 pandemic: higher medical education challenges and responses]. Pediatrician. 2020; 11(3): 5–12. DOI: 10.17816/PED1135-12. (in Russian).
- Ivanov D.O., Petrenko Yu.V., Reznik V.A. i dr. Osobennosti techeniya novoy koronavirusnoyi nfektsii na fone ostrogo mieloblastnogo leykoza [Characteristics of new coronavirus infection in patients with acute myeloid leukemia]. Voprosy prakticheskoy pediatrii. 2021; 16(3): 121–9. Available at: https://www.phdynasty.ru/katalog/zhurnaly/voprosy-prakticheskoy-pediatrii/2021/tom-16-nomer-3/41466 (accessed 12.09.2022). DOI: 10.20953/1817-7646-2021-3-121-129. (in Russian).
- Kozina N.V., Lakomskaya A.V. Svyaz' udovletvoryonnosti zhizn'yu s osobennostyami lichnosti molodykh vrachej [Relationship between life satisfaction and personality

traits of young doctors]. Vestnik Udmurtskogo universiteta. Seriya: Filosofiya. Psikhologiya. Pedagogika. 2022; 32(1): 67–75. Available at: https://cyberleninka.ru/article/n/ svyaz-udovletvoryonnosti-zhiznyu-s-osobennostyamilichnosti-molodyh-vrachey. (accessed 12.09.2022). DOI: 10.35634/2412-9550-2022-32-1-67-75. (in Russian).

- Kostarinova N.V. Medicina prosit pomoshchi [Medicine asks for help]. Gazeta "Kommersant". № 199/P. 01.11.2021: 4. Available at: https://www.kommersant.ru/doc/5060180 (accessed 25.08.22). (in Russian).
- Krasil'nikov I.A., Orel V.I., Kuznetsova E.Yu. i dr. Obshchestvennoe zdorov'e i zdravookhranenie [Public health and healthcare]. Sankt-Peterburg: Petropolis Publ.; 2000. (in Russian).
- Ovsyanik O.A. Sotsial'no-psikhologicheskie osobennosti adaptatsii vrachey k vozniknoveniyu pandemii [Socio-psychological specific of doctors' adaption to the pandemic]. Vestnik Moskovskogo gosudarstvennogo oblastnogo universiteta. Seriya: Psikhologicheskie nauki. 2020; 4: 75–81. Available at: https://cyberleninka. ru/article/n/sotsialno-psihologicheskie-osobennosti-adaptatsii-vrachey-k-vozniknoveniyu-pandemii (accessed 12.09.2022). (in Russian).
- Orel V.I., Gur'eva N.A., Nosyreva O.M. i dr. Sovremennye mediko-organizacionnye osobennosti koronavirusnoj infekcii [Modern medical and organizational features of coronavirus infection]. Pediatrician. 2020; 11(6): 5–12. DOI: 10.17816/PED1165-12. (in Russian).
- 11. Fominykh Yu.A., Osintseva Ya.E. Techenie i iskhod infektsii COVID-19 u patsientov, nakhodyashchikhsya na statsionarnom lechenii, s uchetom metabolicheskikh faktorov riska [The course and outcome of COVID-19 infection in patients undergoing inpatient treatment, taking into account metabolic risk factors]. Universitetskiy terapevticheskiy vestnik. 2022; 4: 115. (in Russian).
- Kholmogorova A.B., Petrikov S.S., SuroeginaA.Yu. i dr. Professional'noe vygoraniei ego faktory u meditsinskikh rabotnikov, uchastvuyushchikh v okazanii pomoshchi bol'nym COVID-19 na raznykh etapakh pandemii [Burnout and its Factors in Healthcare Workers Involved in Providing Health Care for Patients With COVID-19 at Different Stages of the Pandemic]. Neotlozhnaya meditsinskaya pomoshch'. Zhurnal im. N.V. Sklifosovskogo. 2020; 9(3): 321–37. Available at: https://cyberleninka. ru/article/n/professionalnoe-vygoranie-i-ego-faktoryu-meditsinskih-rabotnikov-uchastvuyuschih-v-okazanii-pomoschi-bolnym-covid-19-na-raznyh (accessed 17.09.2022). (in Russian).

#### ЛИТЕРАТУРА

1. Александрович Ю.С., Байбарина Е.Н., Баранов А.А. и др. Ведение детей с заболеванием, вызванным

новой коронавирусной инфекцией (SARS-CoV-2). Педиатрическая фармакология. 2020; 17(2): 103– 18. Доступен по: https://cyberleninka.ru/article/n/ vedenie-detey-s-zabolevaniem-vyzvannym-novoykoronavirusnoy-infektsiey-sars-cov-2 (дата обращения: 28.08.2022).

- Алёшичева А.В., Самойлов Н.Г. Психологическое здоровье врача в условиях пандемии COVID-19. Вестник Удмуртского университета. Серия: Философия, Психология, Педагогика. 2021; 31(2): 179–85. Доступен по: https://cyberleninka.ru/article/n/ psihologicheskoe-zdorovie-vracha-v-usloviyahpandemii-covid-19 (дата обращения: 12.09.2022). DOI: 10.35634/2412-9550-2021-31-2-179-185.
- Горенков Д.В., Хантимирова Л.М., Шевцов В.А. и др. Вспышка нового инфекционного заболевания COVID-19: β-коронавирусы как угроза глобальному здравоохранению. Биопрепараты, профилактика, диагностика, лечение. 2020; 20(1): 6–20. Доступен по: https://cyberleninka.ru/article/n/vspyshka-novogoinfektsionnogo-zabolevaniya-covid-19-koronavirusykak-ugroza-globalnomu-zdravoohraneniyu (дата обращения: 12.09.2022).
- Иванов Д.О., Александрович Ю.С., Орел В.И. и др. Пандемия коронавирусной инфекции: вызов высшему медицинскому образованию и реагирование. Педиатр. 2020; 11(3): 5–12. DOI: 10.17816/PED1135-12.
- Иванов Д.О., Петренко Ю.В., Резник В.А. и др. Особенности течения новой коронавирусной инфекции на фоне острого миелобластного лейкоза. Вопросы практической педиатрии. 2021; 16(3): 121–9. Доступен по: https://www.phdynasty.ru/katalog/ zhurnaly/voprosy-prakticheskoy-pediatrii/2021/tom-16nomer-3/41466 (дата обращения: 12.09.2022). DOI: 10.20953/1817-7646-2021-3-121-129.
- Козина Н.В., Лакомская А.В. Связь удовлетворенности жизнью с особенностями личности молодых врачей. Вестник Удмуртского университета. 2022; 32(1): 67–

75. Доступен по: https://cyberleninka.ru/article/n/svyazudovletvoryonnosti-zhiznyu-s-osobennostyami-lichnostimolodyh-vrachey (дата обращения: 12.09.2022). DOI: 10.35634/2412-9550-2022-32-1-67-75.

- Костаринова Н.В. Медицина просит помощи. Газета «Коммерсантъ». №199/П. 01.11.2021: 4. Доступна по: https://www.kommersant.ru/doc/5060180 (дата обращения 25.08.22).
- Красильников И.А., Орел В.И., Кузнецова Е.Ю. и др. Общественное здоровье и здравоохранение. СПб.: Петрополис; 2000.
- Овсяник О.А. Социально-психологические особенности адаптации врачей к возникновению пандемии. 2020. Вестник Московского государственного областного университета. Серия: Психологические науки. 2020; 4: 75–81. Доступен по: https://cyberleninka. ru/article/n/sotsialno-psihologicheskie-osobennostiadaptatsii-vrachey-k-vozniknoveniyu-pandemii (дата обращения: 12.09.2022).
- Орел В.И., Гурьева Н.А., Носырева О.М. и др. Современные медико-организационные особенности коронавирусной инфекции. Педиатр. 2020; 11(6): 5–12. DOI: 10.17816/PED1165-12.
- Фоминых Ю.А., Осинцева Я.Е. Течение и исход инфекции COVID-19 у пациентов, находящихся на стационарном лечении, с учетом метаболических факторов риска. Университетский терапевтический вестник. 2022; 4: 115.
- 12. Холмогорова А.Б., Петриков С.С., Суроегина А.Ю. и др. Профессиональное выгорание и его факторы у медицинских работников, участвующих в оказании помощи больным COVID-19 на разных этапах пандемии. Неотложная медицинская помощь. Журнал им. Н.В. Склифосовского. 2020; 9(3): 321–37. Доступен по: https://cyberleninka.ru/article/n/professionalnoevygoranie-i-ego-faktory-u-meditsinskih-rabotnikovuchastvuyuschih-v-okazanii-pomoschi-bolnym-covid-19-na-raznyh (дата обращения: 17.09.2022).