

ASSESSMENT AND CORRECTION OF PSYCHOLOGICAL STATE OF MEDICAL WORKERS OF INFECTIOUS DISEASES HOSPITALS IN VOLGOGRAD REPURPOSED FOR TREATMENT OF PATIENTS WITH COVID-19

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Abstract. The aim of the study was to analyze the experience in assessment and correction of the psychological state of the medical staff of infectious hospitals, repurposed to treat patients with COVID-19, and recommendations to the administrative staff of the hospitals for optimization of work with the aim of preserving the health of medical professionals.

Materials and methods of research. From May to September 2020, medical psychologists of the laboratory of Psychophysiological support of the Center for Disaster Medicine of the Clinical emergency medical station of Volgograd visited 9 medical treatment organizations (LMO) that were converted into infectious diseases hospitals.

During the visits, the psychological state of 279 medical workers was diagnosed according to the following methods:

1. Questionnaire for the identification and evaluation of neurotic states (K.K.Yakhin, D.M.Mendelevich).

2. The method of measuring the level of "mental burnout" (V. V.Boyko).

The results of the study and their analysis. The results of the assessment of the psychological state of medical workers in infectious diseases hospitals are presented and the main directions of providing psychological assistance are identified. The principles of organizing methodological assistance to the administration of the hospitals are described.

Key words: infectious diseases hospitals, medical personnel, medical psychologists, new coronavirus infection COVID-19, psychological consultation, psychological diagnosis, psychological state

Conflict of interest. The authors declare no conflict of interest

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ОЦЕНКА И КОРРЕКЦИЯ ПСИХОЛОГИЧЕСКОГО СОСТОЯНИЯ МЕДИЦИНСКИХ РАБОТНИКОВ ИНФЕКЦИОННЫХ ГОСПИТАЛЕЙ Г.ВОЛГОГРАДА, ПЕРЕПРОФИЛИРОВАННЫХ ДЛЯ ЛЕЧЕНИЯ БОЛЬНЫХ COVID-19

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Резюме. Цель исследования – проанализировать опыт работы по оценке и коррекции психологического состояния медицинского персонала инфекционных госпиталей, перепрофилированных для лечения больных COVID-19, и разработке рекомендаций для административно-управленческого персонала инфекционных госпиталей по оптимизации работы с целью сохранения здоровья медицинских специалистов.

Материалы и методы исследования. С мая по сентябрь 2020 г. медицинские психологи лаборатории психофизиологического обеспечения центра медицины катастроф Клинической станции скорой медицинской помощи г.Волгограда выезжали в 9 лечебных медицинских организаций (ЛМО), перепрофилированных в инфекционные госпитали.

В ходе выездов была выполнена диагностика психологического состояния 279 медицинских работников, которую проводили по следующим методикам:

1. Опросник для выявления и оценки невротических состояний (К.К.Яхин, Д.М.Менделевич).

2. Методика измерения уровня «психического выгорания» (В.В.Бойко).

Результаты исследования и их анализ. Представлены результаты оценки психологического состояния медицинских работников инфекционных госпиталей и определены основные направления оказания психологической помощи. Описаны принципы организации методической помощи администрации инфекционных госпиталей.

Ключевые слова: инфекционные госпитали, медицинские психологи, медицинский персонал, новая коронавирусная инфекция COVID-19, психологическая диагностика, психологическая консультация, психологическое состояние

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Introduction

In the context of the spread of a new coronavirus infection, medical workers of isolation hospitals and of medical organisations re-profiled to isolation hospitals are at the forefront of the fight against a new challenge for the health care system [1-3]. A high danger to life, changed working regimes and procedures, a large flow of hospitalized people, ambiguous prospects for the end of the pandemic and for return to normal work - all this can have a negative impact on physical and psychological health of medical workers providing medical care to patients with COVID-19.

The purpose of the study is to analyze the experience of assessing and correcting the psychological state of medical personnel of infectious diseases hospitals re-profiled to treat patients with COVID-19, and to develop recommendations for the administrative and managerial staff of infectious diseases hospitals to optimize work in order to preserve the health of medical specialists.

Materials and research methods. From May to September 2020, medical psychologists of the Laboratory of Psychophysiological Support of the Center for Disaster Medicine of the Clinical Ambulance Station in Volgograd made visits to 9 medical centers, converted to infectious diseases hospitals.

During the visits, psychological diagnostics of 279 medical workers - 116 doctors and 163 nurses - was performed. Based on the results of psychological diagnostics, a psychological consultation was carried out for each medical worker.

Diagnostics of the psychological state of medical personnel was carried out by the on-site method in the «green zone» of the medical organization. In order to preserve the confidentiality of the obtained data, the medical organisations, in which the work was carried out, were attributed with numbers 1-9.

At the first stage, each specialist was interviewed and his/her psychological diagnosis was set using the following methods:

1. Questionnaire for identification and assessment of neurotic states (K.K. Yakhin, D.M. Mendelevich).

2. Methods of measuring the level of «mental burnout» (V.V. Boyko) [4].

Research results and their analysis. The visits of researchers to medical organisations redesigned to infectious diseases hospital have been made for at least 2.5 months (Table 1). As within the first months of work as infectious diseases hospitals, all the necessary organizational measures need to be taken and the medical personnel was adapting to work under the new conditions, it was a difficult time for the work of medical psychologists.

Analysis of the data obtained during the survey showed that the prevalence of neurotic disorders among doctors was higher than among nurses (see Table 1). The highest rates were noted in infectious diseases hospitals No. 5 (71.4%), No. 4 (50.0%) and No. 7 (42.8%). Significantly lower - in infectious diseases hospitals No. 2 (26.3%), No. 9 (20%) and No. 6 (14%).

When studying the prevalence of neurotic disorders among nurses, it was found that basically every third nurse has signs of neurotization. The highest level of neurotic disorders was noted among the nurses of the infectious diseases hospital №8 - 47%; the lowest - among the nurses of the infectious diseases hospital №9 - 12.5%.

During the survey, it was found that, in terms of frequency of occurrence, the following neurotic symptoms dominate among doctors: neurotic depression (30.0%), asthenia (23.0%), less often - symptoms of obsessive-phobic disorders (17.0%), anxiety (12.0%), hysterical type of reaction (11.0%), vegetative disorders (7.0%); in nurses: neurotic depression (22.0%), obsessive-phobic disorders (21.0%), anxiety (16.0%), hysterical type of reaction (16.0%), less often - symptoms of asthenia (14.0%) and vegetative disorders (11.0%) - Table 2.

Data on the prevalence of burnout syndrome are presented in Table 3.

Таблица 1/ Table No 1

Распространенность невротических расстройств у медицинских работников инфекционных госпиталей Волгоградской области

Prevalence of neurotic disorders in medical workers of infectious diseases hospitals of the Volgograd Region

Лечебная медицинская организация Name of the medical organization	Продолжительность работы перепрофилированной ЛМО на момент обследования, мес Duration of operation of the repurposed institution at the time of the survey, month	Распространенность невротических расстройств, % Prevalence of neurotic disorders, %	
		врачи doctors	медицинские сестры nurses
Инфекционный госпиталь № 1/ Infectious Diseases Hospital No 1	2,5	41,0	33,3
Инфекционный госпиталь № 2/ Infectious Diseases Hospital No 2	3	26,3	24,1
Инфекционный госпиталь № 3/ Infectious Diseases Hospital No 3	3	30,0	31,0
Инфекционный госпиталь № 4/ Infectious Diseases Hospital No 4	3,5	50,0	33,3
Инфекционный госпиталь № 5/ Infectious Diseases Hospital No 5	4	71,4	38,9
Инфекционный госпиталь № 6/ Infectious Diseases Hospital No 6	3,5	14,0	15,3
Инфекционный госпиталь № 7/ Infectious Diseases Hospital No 7	3	42,8	30,7
Инфекционный госпиталь № 8/ Infectious Diseases Hospital No 8	3	29,0	47,0
Инфекционный госпиталь № 9/ Infectious Diseases Hospital No 9	3	20,0	12,5

When analyzing the results of psychological diagnostics using the methodology for measuring the level of emotional burnout (V.V. Boyko), it can be seen that the level of prevalence of the syndrome of emotional burnout is generally higher among doctors (see Table 3). The highest prevalence rates for this parameter were noted in infectious diseases hospitals No. 1, 4, 7, 3, 5 - 66.6; 64.2; 61.5; 60.0 and 57.1%, respectively.

A high prevalence of emotional burnout among nurses was noted in infectious diseases hospitals No. 1, No. 8 - 75 and 47%, respectively (see Table 3).

The high prevalence of emotional burnout indicates the need to organize a system of medical and psychological care for medical workers in infectious diseases hospitals in the Volgograd region in order to provide them with psychological support, to reduce the risks of maladjustment and of professional deformation.

Analyzing the results of assessing the prevalence of neurotic disorders and of burnout syndrome in medical workers of infectious diseases hospitals, the following features can be noted. The prevalence of psychological distress tends to be higher among health workers in infectious diseases hospitals that have a shortage of medical personnel. In infectious diseases hospitals No. 1, 3, 4, 5, 7 there is a shortage of medical personnel, a high percentage of overlapping, each em-

ployee is forced to take additional shifts. Apparently, this is related to a high prevalence of neurotic disorders and of burnout syndrome among medical workers of these infectious hospitals. In infectious diseases hospital No. 8, the prevalence of burnout syndrome is higher among nurses who are understaffed, a number of specialists are on sick leave, and working nurses are forced to replace those who are sick. A similar situation was noted in the infectious diseases hospital №1.

Meanwhile, in infectious diseases hospitals, in which there is no shortage of personnel, the work is organized in accordance with the norms of working hours, where interns of the medical university are involved in the work, the proportion of medical workers who have manifestations of neurotic disorders and of emotional burnout is much lower - as in infectious hospitals No. 2, 6, 9. In addition, medical workers of these infectious diseases hospitals have the opportunity to take a vacation.

These phenomena were verified in the course of conversations with medical workers as part of psychological correction measures.

The wide spread of neurotization in infectious diseases hospitals can also be associated with the profile of medical care provided in a particular infectious diseases hospital. By order of the Volgograd Region Health Committee of March 20, 2020 No. 670, a scheme for re-hospitalization (hospitalization) of patients with a new coronavirus infection and with clinical symptoms that do not exclude a new coronavirus infection was approved for emergency indications. This regulatory act defines the area of responsibility (traumatology, cardiology, urology, etc.) for each infectious diseases hospital. It also indicates the severity of the condition of patients (mild, moderate, severe), who should be hospitalized in a specific infectious diseases hospital. This feature may partly be the reason for a high spread in the prevalence of neurotization and burnout syndrome among doctors in infectious diseases hospitals No. 1, 3, 5, 6, 7, 8, 9.

The provision of psychological assistance to medical workers was carried out using methods of the cognitive-behavioral, rational psychotherapy. As a part of the psychological counseling, health workers were trained in muscle relaxation, breathing exercises and autogenic training. Each medical professional was presented with individual recommendations to maintain an adequate psychological status.

Таблица 2/Table No 2

Частота встречаемости конкретного невротического симптома среди всех выявленных

The frequency of occurrence of a particular neurotic symptom among all neurotic symptoms identified

Шкала опросника невротических состояний The scale of the questionnaire of neurotic states	Частота встречаемости, % Frequency of occurrence, %	
	врачи doctors	медицинские сестры nurses
1. Шкала тревоги / Alarm scale	12,0	16,0
2. Шкала невротической депрессии / Neurotic depression scale	30,0	22,0
3. Шкала астении / Asthenia scale	23,0	14,0
4. Шкала истерического типа реагирования /Scale of the hysterical type of reaction	11,0	16,0
5. Шкала обсессивно-фобических нарушений /The scale of obsessive- phobic disorders	17,0	21,0
6. Шкала вегетативных нарушений / Scale of vegetative disorders	7,0	11,0

Таблица 3/Table No 3

Распространенность синдрома эмоционального выгорания (СЭВ) у медицинских работников инфекционных госпиталей

Prevalence of burnout syndrome in infectious diseases hospital health workers

Лечебная медицинская организация Name of the medical organization	Продолжительность работы перепрофилированной ЛМО на момент обследования, мес Duration of operation of the repurposed institution at the time of the survey, month	Распространенность синдрома эмоционального выгорания, % Prevalence of burnout syndrome, %	
		врачи doctors	медицинские сестры nurses
Инфекционный госпиталь № 1 / Infectious Disease Hospital No 1	2,5	66,6	75,0
Инфекционный госпиталь № 2 / Infectious Diseases Hospital No 2	3	36,8	34,5
Инфекционный госпиталь № 3 / Infectious Diseases Hospital No 3	3	60,0	36,8
Инфекционный госпиталь № 4 / Infectious Diseases Hospital No 4	3,5	64,2	33,3
Инфекционный госпиталь № 5 / Infectious Diseases Hospital No 5	4	57,1	38,9
Инфекционный госпиталь № 6 / Infectious Diseases Hospital No 6	3,5	20,0	15,3
Инфекционный госпиталь № 7 / Infectious Diseases Hospital No 7	3	61,5	23,0
Инфекционный госпиталь № 8 / Infectious Diseases Hospital No 8	3	21,0	47,0
Инфекционный госпиталь № 9 / Infectious Diseases Hospital No 9	3	20,0	0,0

During the conversation, medical workers of infectious diseases hospitals noted that the following groups of factors have a negative impact on the psychological state:

1. Professional factors:

- provision of medical care to patients with a "non-core disease" - due to a forced professional restructuring;
- rapid and unpredictable course of the disease, lack of specific therapy.

2. Psychological factors:

- anxiety for the patient's condition, sense of incompetence;
- lack of skills to overcome emotional stress arising from stressful experiences.

3. Organizational factors:

- shortage of medical personnel, high percentage of combining and part-time jobs;
- transfers of vacations for an indefinite period.

In order to provide prolonged psychological assistance, round-the-clock psychological support telephones were communicated to each medical specialist - of regional and federal level. By contacting them, a medical worker will receive advice from a qualified psychologist or a psychotherapist and, if necessary, will be referred for an in-person consultation.

The provision of methodological assistance to the administration of medical organizations was carried out in the following ways:

- in the lobby of all medical organisations booklets of the Ministry of Health of the Russian Federation on mental health preservation during the COVID-2019 pandemic were placed, as well as a memo with the telephone numbers of «hot lines» for emergency psychological assistance to medical workers providing assistance to patients with COVID-19;
- in the "red zone" of each medical organisation, reminders with the telephone numbers of the "hot lines" for emergency psychological assistance to patients undergoing inpatient treatment for coronavirus infection were transferred;
- in each medical center, seminars for medical personnel were held on the topic «Prevention of burnout syndrome in medical workers»;

- upon completion of work in each medical organization, a report was prepared. It characterised the psychological state of the personnel: the number of medical workers with borderline (neurotic) disorders; the number of health workers with burnout syndrome at the stage of «stress», «resistance», «exhaustion». The results were discussed with the administrative and management staff of each medical organisation. They were given recommendations on how to optimize their work in order to preserve the mental health of health workers.

Given the high prevalence of neurotic disorders and of emotional burnout syndrome, the management of infectious diseases hospitals is recommended to carry out the following organizational measures:

- to systematically carry out the rotation of medical personnel within the infectious diseases hospital, establishing a constructive work schedule;
- to organize a flexible schedule of vacations, including short-term vacations of medical workers, who, according to the results of psychological diagnostics, revealed neurotic disorders and a high level of emotional burnout;
- to conduct trainings on the socio-psychological correction of professional and personal deformities, as well as the classes to develop the skills of breathing and relaxation.

Conclusion

The field work of medical psychologists in infectious diseases hospitals allowed:

1. To assess the current psychological state of medical workers.
2. To provide them with a full-time psychological assistance.
3. To present the results of their work to the administrative and management personnel of the medical organisations with recommendations for further action.

At present, medical psychologists of the laboratory of psychophysiological support of the disaster medicine center of the Clinical Ambulance Station are carrying out further work in the indicated medical organisations in order to provide psychological assistance and to assess the dynamics of the mental state of medical specialists.

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