

БЕЗОПАСНОСТЬ В ЧРЕЗВЫЧАЙНЫХ СИТУАЦИЯХ SAFETY IN EMERGENCY ENVIRONMENT

<https://doi.org/10.33266/2070-1004-2012-25-30>
UDC 616.1-07:614.8.08

Original article
© ARCDM Zashchita

PRESENT STATE, PROBLEMS AND METHODS OF IMPROVING SYSTEM OF MEDICAL REHABILITATION OF RESCUERS AND PARTICIPANTS IN ELIMINATION OF CONSEQUENCES OF EMERGENCY SITUATIONS

L.N.Budnikova, [V.N.Komarevtsev](#), A.N.Razumov

All-Russian Centre for Disaster Medicine Zashchita of Federal Medical Biological Agency, Moscow, Russian Federation

Abstract. The purpose of the study is to analyze the current procedure for organizing medical rehabilitation of participants in the elimination of the consequences of emergency situations (ES) and to develop the main conceptual issues of the medical rehabilitation of rescuers in the environment of emergency situations.

Materials and methods of research. The study of the state of the system of medical rehabilitation of rescuers in the course of liquidation of consequences of ES began with the study of: the existing procedure for the medical rehabilitation of participants of ES consequences liquidation and rescuers, regulated by the current regulatory legal documents of the Russian Federation; methodological and training manuals in the field of healthcare; official documents of the All-Russian Service for Disaster Medicine (VSMC) on the organization of medical rehabilitation of those involved in the operations and rescuers.

The results of the study and their analysis. The state, problems and methods of improving the system of medical rehabilitation of rescuers and participants in the elimination of the consequences of emergencies are considered. The main conceptual provisions on the medical rehabilitation of rescuers in the emergency zone are presented.

Key words: emergency rescue units, expert assessment, field teams of medical, rehabilitation, medical rehabilitation, participants in the elimination of the consequences of emergency situations, emergency situations, questionnaire, rehabilitation and recovery measures, rescuers

Conflict of interest. The authors declare no conflict of interest

For citation: Budnikova L.N., Komarevtsev V.N., Razumov A.N. Present State, Problems and Methods of Improving System of Medical Rehabilitation of Rescuers and Participants in Elimination of Consequences of Emergency Situations. *Meditsina Katastrof = Disaster Medicine*. 2021; 1: 25-30 (In Russ.). <https://doi.org/10.33266/2070-1004-2021-1-25-30>

<https://doi.org/10.33266/2070-1004-2021-1-25-30>
УДК 616.1-07:614.8.08

Оригинальная статья
© ВЦМК «Защита»

СОСТОЯНИЕ, ПРОБЛЕМЫ И МЕТОДЫ СОВЕРШЕНСТВОВАНИЯ СИСТЕМЫ МЕДИЦИНСКОЙ РЕАБИЛИТАЦИИ СПАСАТЕЛЕЙ И УЧАСТНИКОВ ЛИКВИДАЦИИ ПОСЛЕДСТВИЙ ЧРЕЗВЫЧАЙНЫХ СИТУАЦИЙ

Л.Н.Будникова, [В.Н.Комаревцев](#), А.Н.Разумов

ФГБУ «Всероссийский центр медицины катастроф «Защита» ФМБА России, Москва, Россия

Резюме. Цель исследования – анализ действующего порядка организации медицинской реабилитации участников ликвидации последствий чрезвычайных ситуаций (ЧС) и разработка основных концептуальных положений о проведении медицинской реабилитации спасателей в условиях (в зоне) ЧС.

Материалы и методы исследования. Исследование состояния системы медицинской реабилитации спасателей в ходе ликвидации последствий ЧС началось с изучения: существующего порядка проведения медицинской реабилитации участников ликвидации последствий ЧС и спасателей, регламентированного действующими нормативными правовыми документами Российской Федерации; методических и учебных пособий в сфере здравоохранения; служебных документов Всероссийской службы медицины катастроф (ВСМК) по вопросам организации медицинской реабилитации участников ликвидации последствий ЧС и спасателей.

Результаты исследования и их анализ. Рассмотрены состояние, проблемы и методы совершенствования системы медицинской реабилитации спасателей и участников ликвидации последствий ЧС. Представлены основные концептуальные положения о проведении медицинской реабилитации спасателей в зоне ЧС.

Ключевые слова: аварийно-спасательные формирования, анкета, выездная бригада медицинской реабилитации, медицинская реабилитация, реабилитационно-восстановительные мероприятия, спасатели, чрезвычайная ситуация, экспертная оценка

Конфликт интересов. Авторы статьи подтверждают отсутствие конфликта интересов

Для цитирования: Будникова Л.Н., Комаревцев В.Н., Разумов А.Н. Состояние, проблемы и методы совершенствования системы медицинской реабилитации спасателей и участников ликвидации последствий чрезвычайных ситуаций // *Медицина катастроф*. 2021. №1. С. 25-30. <https://doi.org/10.33266/2070-1004-2021-1-25-30>

Contact information:

Lilia N. Budnikova – Cand. Sci. (Med.), Chief of Department of the Medical Examination and Rehabilitation Centre of All-Russian Centre for Disaster Medicine Zashchita

Address: 5, Schukinskaya str., Moscow, 123182, Russia

Phone: +7 (499) 190-63-69

E-mail: mail@vcmk.ru

Контактная информация:

Будникова Лилия Николаевна – кандидат медицинских наук, заведующая отделением Центра медицинской экспертизы и реабилитации ВЦМК «Защита»

Адрес: Россия, 123182, Москва, ул. Щукинская, 5

Тел.: +7 (499) 190-63-69

E-mail: mail@vcmk.ru

Introduction

The increase in the number of natural and man-made disasters in Russia in the last decade increases the risk of emergencies (Akimov V.A., 2013; Goncharov S.F. et al., 2016; Aleksanin S.S., 2017). Against this background, special attention is paid to increasing the readiness of the forces and means of the EMERCOM of Russia, especially of the emergency rescue teams, which are entrusted with the task of eliminating the consequences of emergencies (Kireev S.G., 2017).

In this regard, in accordance with the Federal Action Plan for the prevention and elimination of emergencies, the discipline «Disaster Medicine» includes 5 scientific provisions: conceptual aspect; time aspect; social aspect; assistance / recovery; risk reduction. The risk reduction aspect examines in detail the processes associated with an emergency response and aims at mitigating the risks that a hazard will cause a disaster, and contributes to the elimination of the consequences of a disaster. Scientific provisions provide a standardized format for studying and comparing actions taken before, during and after disasters, especially if these actions concern the health status of people exposed to various extreme factors in the emergency.

The study of the dynamics of the state of human health under the influence of unfavorable and stressful factors is one of the important directions of scientific research in the field of disaster medicine [1]. Interest for this kind of studies is dictated by the requirements for the professional competencies of specialists of emergency rescue teams. While fulfilling his professional duties, the rescuer is primarily focused on the task, and his susceptibility to stress factors is determined by individual psychophysiological characteristics, level of stress resistance, general background and work experience [2].

The mechanisms of mental adaptation to work in special conditions are described by psychiatrists G.K. Ushakov (1978), Yu.A. Aleksandrovsky (1991), Z.I. Kekelidze (1997), V.N. Krasnov (2003). In addition, the concept of mental adaptation by F.B. Berezin (1988), the theory of emotional stress by R. Lazarus (1970), as well as the works of V.P. Zinchenko (1974), K.K. Platonov (1960), F.B. Lomov (1984) and other authors reveal the categories of reflection, activity, communication and personality that are basic for psychological science.

Rescuers who have a temporary or persistent impairment of health, psycho-emotional state, decrease or loss of professional working capacity, in accordance with the Decree of the Government of the Russian Federation «On the procedure for free medical rehabilitation of rescuers in the Russian Federation» dated October 31, 1996 No. 1312 are sent for medical rehabilitation.

The All-Russian Center of Disaster Medicine «Zashchita» of the FMBA of Russia has accumulated a large factual material on the use of medical rehabilitation programs for participants in the elimination of the consequences of emergencies, for staff members of mobile medical units, for rescuers and firefighters [1, 3, 4].

Specialists of «Zashchita» have 25 years of experience in using a complex of psychological, psychophysiological and functional examinations at the stages of pre- and post-rehabilitation diagnostics [1, 5-7]. According to the Decree of the Government of the Russian Federation «On Approval of the Regulations on the All-Russian Service for Disaster Medicine» dated August 26, 2013 No. 734, the medical rehabilitation of rescuers involves the use of special forms and methods of prevention, diagnosis and treatment approved by the Federal Service for Surveillance in Healthcare and Social Development of the Russian Federation. The main principles of medical rehabilitation of rescuers were approved: timeliness, consistency and continuity of its implementation on the basis of a systemic and individual approach. Medical rehabilitation of rescuers should be carried out: during the liquidation of the consequences of an emergency; at the outpatient clinic level; in the hospital and at the sanatorium stage.

At the same time, in recent years, medical rehabilitation of rescuers has been carried out only at the outpatient-poly-clinic level and, thus, the principles of a systematic approach to its implementation have not been applied. The traditional ideas of domestic medicine about the essence of the pathological process, covering the entire body, necessitated the development of new organizational and methodological concepts for a complex of therapeutic and prophylactic measures - medical rehabilitation and restorative medicine, recreational and sanatorium technologies, which provide for the use of therapeutic physical factors. However, it should be noted that an extremely important task of medical rehabilitation of rescuers is to maintain their high performance in the emergency zone, which means that rehabilitation and recovery measures should be carried out directly during the rescue operations.

The purpose of the study is to analyze the current procedure for organizing medical rehabilitation of participants in the elimination of the consequences of emergencies and to develop basic conceptual provisions for medical rehabilitation of rescuers in the conditions (in the zone) of emergencies.

Materials and research methods. The study of the state of the medical rehabilitation system of rescuers during the elimination of the consequences of emergencies began with the study of: the existing procedure for medical rehabilitation of participants in the elimination of the consequences of emergencies and rescuers, regulated by the legal documents of the Russian Federation; methodological and teaching aids in the field of health care; official documents of the All-Russian Service of Disaster Medicine on the organization of medical rehabilitation of participants in the elimination of the consequences of emergencies and rescuers [7]¹⁻⁴.

It should be noted that the characteristics, time and place of medical rehabilitation of rescuers are regulated, but not introduced (the forms, methods, means and modern medical technologies of rehabilitation have not been developed) into the

practice of the work of full-time specialists of mobile medical units of the All-Russian Disaster Medicine Service and the personnel of the emergency department. Typical modes of work of rescuers are differentiated according to their severity, time of work shift and rest, which is not always possible due to the unpredictability of the disaster and the complexity of predictive modeling of the situation. According to the Decree of the Government of the Russian Federation «On the peculiarities of the working hours and rest time of certain categories of workers with a special nature of work» dated December 10, 2002 No. 877, the severity of work is understood as the degree of the cumulative effect of all environmental factors on the working capacity and human health.

In an emergency, the operating modes of the rescuer are changed in accordance with these conditions, the specifics of the work and medical recommendations⁵.

In turn, the prospect of preventing the negative impact of environmental and stress factors on rescuers during the elimination of the consequences of emergencies is associated with the need to timely carry out a complex of rehabilitation and recovery measures, with an individual monitoring of their health in real time. "In this regard, it will be necessary to create mobile complexes for remote monitoring and other medical devices that allow obtaining more objective and meaningful data on the health status of these persons, on the basis of which it would be possible to make complex medical decisions to maintain physical and mental health, to provide medical care and treatment, as well as to ensure the implementation of an appropriate complex of medical rehabilitation measures» [8]. The relevant requirements for the activities of the Disaster Medicine Service are supported by the development of information and telecommunication technologies.

Analysis of scientific publications and research works on the organization of medical rehabilitation of participants in the elimination of the consequences of emergencies (Preobrazhensky V.N., Goncharov S.F., Lyadov K.V., Razumov A.N., Ponomarenko G.N., Shchegolkov A. N., Karatay Sh.S., Fattakhov V.V.) allows us to conclude that there are no differentiated recovery and rehabilitation programs for rescuers in emergencies. Dissertation work study is limited to the issues of medical rehabilitation of rescuers at the outpatient-polyclinic stage (Barannik B.D., 2000; Lapin A.Yu., 2002; Manevsky A.P., 2003; Vishnevskaya M.V., 2009 and others). Scientific research practically does not cover the organization of medical rehabilitation of rescuers in the zone of emergency, and, accordingly, the procedure for organizing and conducting rehabilitation measures has not been developed. As a result,

scientific research containing the analysis of the problem and proposals for its systemic implementation were not carried out.

In order to expand the information base of this study, the authors used the method of expert assessment [9–11].

In general, the following research methods were used in this work: analysis of research papers, scientific publications in journals and newspapers; analysis of regulatory legal acts of the Russian Federation; predictive modeling and observation method; interview; questionnaire survey and expert assessments; methods of interview, comparison, measurement; analytical statistics.

Research results and their analysis. Domestic experience shows that the organizational model of medical rehabilitation of rescuers does not correspond to modern concepts of medical care. In recent years, one of the primary tasks of Russian health care was to improve the quality and efficiency of medical care. According to scientists and specialists in the field of disaster medicine, the process can be accelerated by attracting mobile medical units to provide rehabilitation assistance in emergency situations. The relevance of the organization of medical rehabilitation of rescuers during the elimination of the consequences of emergencies was confirmed by the use of the method of expert assessments, which is a survey of specialists competent in the field of disaster medicine, whose judgments about the problem under study were considered as expert assessments.

In order to identify the level of need of rescuers in medical rehabilitation in emergencies, we have developed a questionnaire «Medical rehabilitation of rescuers in an emergency» (hereinafter - the Questionnaire).

Expert assessments were presented by 248 All-Russian Disaster Medicine Service specialists from 47 constituent entities of the Russian Federation (hereinafter referred to as constituent entities), with 148 respondents (60%) having taken part in the elimination of the consequences of emergencies.

The competence criteria of the experts included: work experience in the structures of the Russian EMERCOM Ministry and the Disaster Medicine Service; academic degree and academic title. Expert groups, which included: heads of territorial centers for disaster medicine - 9%; heads of departments - 9; employees of «Zashchita» - 10; chief doctors - 8; heads of departments - 10; medical specialists - 15; ambulance doctors - 14; psychologists of the Center for Emergency Psychological Aid of EMERCOM of Russia - 17; Physiotherapists - 8%, were considered by us as a qualitative reliable source of information that allows us to measure the consistency of expert judgments by the mathematical method. The consistency of the experts' judgments was assessed using the chi-square test.

The indicators that make it possible to measure the judgments of experts included the academic degree and work experience of the expert. 5% of the experts had the academic degree of Doctor of Science, 7% of the experts had the academic degree of Candidate of Science. Since the expert has a large amount of necessary knowledge on the issue under consideration, his opinion and the opinion of the expert group are close to the truth. The share of specialists working in the structures of disaster medicine for 10–25 years was 42.86%, which played an important role in the development of a scientifically grounded methodological approach to improving the system of medical rehabilitation of rescuers (Fig. 1).

To formulate a decision on improving the system of medical rehabilitation of rescuers in emergency conditions,

¹ Об утверждении Положения о Всероссийской службе медицины катастроф: Постановление Правительства Российской Федерации от 26 августа 2013 г. №734

² О порядке организации медицинской реабилитации в соответствии со статьей 40 Федерального закона от 21 ноября 2011 г. №323-ФЗ "Об основах охраны здоровья граждан в Российской Федерации": приказ Минздрава России от 29 декабря 2012 г. №1705н

³ О защите населения и территорий от чрезвычайных ситуаций природного и техногенного характера: Федеральный закон от 21.12.1994 №68-ФЗ (СЗ РФ 94(35), № 98-ФЗ ст.2 (вступил в силу 1 апреля 2020 г.)

⁴ О создании Российской системы предупреждения и действий в чрезвычайных ситуациях: Постановление Правительства Российской Федерации от 18 апреля 1992 г. №261

⁵ Об утверждении Положения об особенностях режима рабочего времени и времени отдыха работников аварийно-спасательных и поисково-спасательных формирований Министерства Российской Федерации по делам гражданской обороны, чрезвычайным ситуациям и ликвидации последствий стихийных бедствий, работа которых непосредственно связана с проведением аварийно-спасательных работ: проект приказа МЧС России (подготовлен МЧС России 14.10.2019)

the experts were asked a number of questions about the implementation of medical rehabilitation of rescuers in an on-site form (Table 1).

The analysis of data in Table 1 indicates a positive attitude of all experts to the field form of medical rehabilitation of rescuers. All experts - heads of departments - agreed that a promising form of implementation of a systematic approach to medical rehabilitation of rescuers in emergencies is the formation of mobile medical rehabilitation teams.

Further, the experts were asked to select 10 provisions from the proposed list that meet the condition:

The effectiveness of medical rehabilitation for rescuers in an emergency depends ...

1.... on an individual approach to carrying out recovery measures - 71.4% of responses;

2. ... on the timeliness of recovery measures - 83.7;

3.... on the prompt response of the field medical rehabilitation team - 61.7;

4. ... on the forecast of indicators of their professional health - 30.1;

5. ... on the algorithm for organizing recovery measures - 62.8;

6. ... on the communication in the mobile medical rehabilitation team - 20.4;

7. ... on the level of qualifications and work experience of medical specialists who are part of the mobile medical rehabilitation team - 85.2;

8. ... on the tactics and strategies for the use of physical and psychological methods of restorative treatment in the expected conditions - 67.9;

9. ... on the possibility of using new medical technologies (technical equipment, medicines, etc.) - 76.5;

10. ... on what are the interpersonal relationships, discipline and mutual assistance in the team - 27.6;

11. ... on the beneficial influence (psychological and physical) both on the victims of the emergency situation and on the participants in the liquidation of its consequences - 50.0;

12. ... on the fact that in field medical rehabilitation team there is cohesion, unity in understanding the goals, objectives, motivation and ways of performing joint activities - 57.1;

13. ... on the use of physiotherapeutic methods in anti-stress therapy - 42.3;

14. ... on the impact of medical rehabilitation on the level of their professional performance - 40.3;

15. ... on the adaptive abilities of their body - 62.8;

16. ... on the use of drug treatment - 30.1;

17. ... on the perspective of restoration of functions (reha-

bilitation potential) - 53.1;

18. ... on the availability of all known (in Russia and abroad) means and methods of restorative treatment - 67.3% of the responses.

The distribution of the significance of the answers to the questions of the Questionnaire is shown in Figure 2.

As seen in Figure 2, 85.2% of the experts chose question №7 - The effectiveness of medical rehabilitation of rescuers in an emergency situation depends ... on the level of qualifications and work experience of medical specialists who are part of the field medical rehabilitation team; 76.5 - question number 9 - ... on the possibility of using new medical technologies (technical equipment, medicines, etc.); 83.7% of experts - question number 2 - ... on the timeliness of the restoration measures.

The next block of questions in the Questionnaire contained a proposal to experts to rank the variants of the place of each value orientation in the «Rank» field, which most accurately characterizes the ranking of medical rehabilitation of rescuers in emergency situations - by numbers from «10» to «1» in descending order of indicators, where «10» - the most important place (Table 2).

As seen in Figure 3, the place of each value orientation in the «Rank» field is marked by the frequency of occurrence of answers to the questions posed.

An expert assessment of the value orientations of medical rehabilitation of rescuers in emergency situations was as follows: the first place with the maximum rank value «10» was received by question No. 3 - Maintaining high efficiency of rescuers during the elimination of the consequences of an emergency (39.44%); second place - question No. 1 - Restoration of the professionally significant qualities of rescuers;

Таблица 1/ Table No 1

Частота встречаемости в группах экспертов ответов «Да», «Нет» на вопрос о перспективности выездной формы медицинской реабилитации спасателей, %

The frequency of the answers "Yes", "No", of the groups of experts to the question of the Questionnaire about the prospects of the field form of medical rehabilitation of rescuers, %

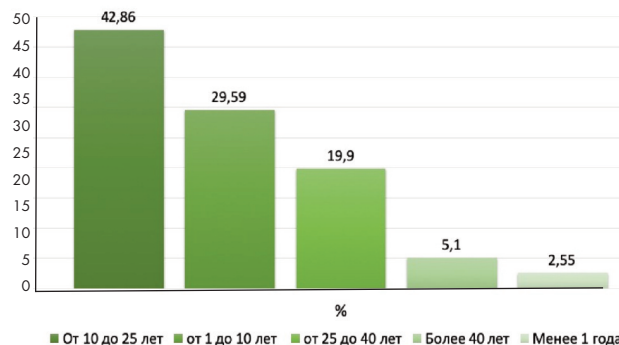


Рис. 1. Стаж работы экспертов, %
Fig. 1. Personal participation of experts in emergency situations

Группа экспертов Groups of experts	Ответ/Answer		Частота встречаемости ответов в группах The frequency of the answers of the groups of experts
	да/yes	нет/no	
Специалисты ВЦМК «Защита» Specialist of ARCDM "Zashchita"	93,33	6,67	8,47
Врачи скорой медицинской помощи Emergency medical doctors	94,12	5,88	9,60
Врачи-специалисты Specialist doctors	93,33	6,67	16,95
Психологи МЧС России Psychologists of the EMERCOM of Russia	74,07	25,93	15,25
Главные врачи Chief Medical Officers	73,33	26,67	8,47
Заведующие отделениями Heads of wards	87,50	12,50	9,04
Руководители Managers	75,00	25,00	9,04
Начальники управлений Heads of Departments	100,00	0,00	14,69
Врачи-физиотерапевты Physical therapists	93,33	6,67	8,47
В среднем/ Average	87,57	12,43	-

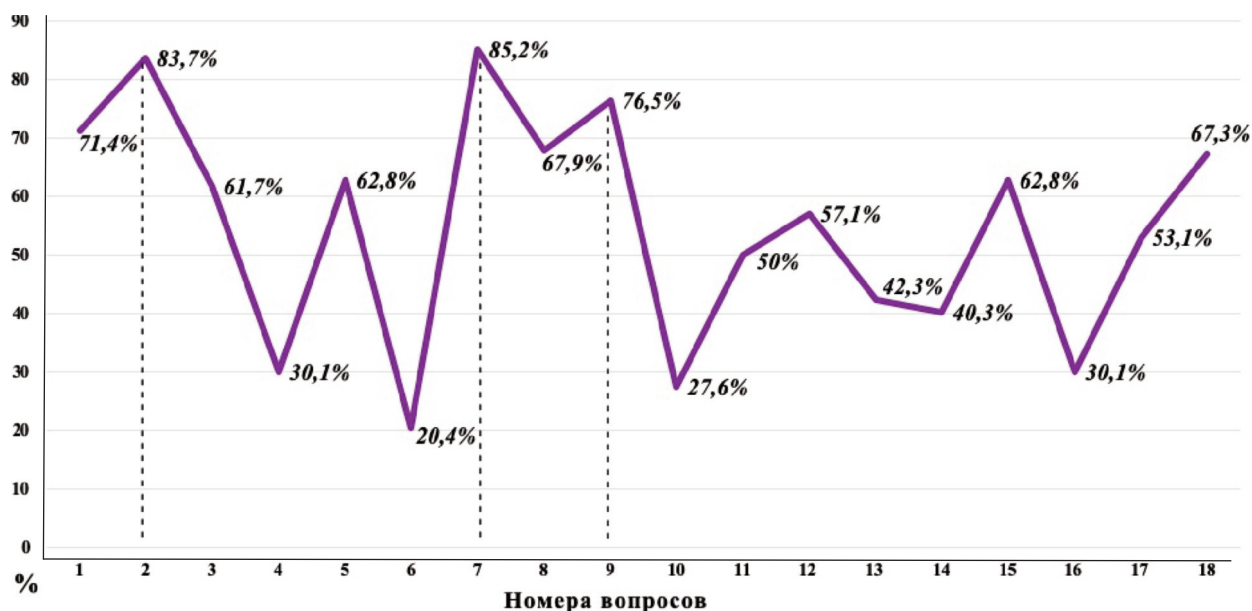


Рис. 2. Экспертная оценка эффективности медицинской реабилитации спасателей в условиях ЧС, %
 Fig. 2. Length of service of experts

third place - question No. 5 - Adaptation of rescuers to the conditions of an emergency. Experts believe that the readiness of the rescuer for professional activity, the preservation and maintenance of his high performance in the elimination of the consequences of emergencies is the primary task of medical rehabilitation in the emergency zone.

At present, the Regulations have been developed on the working and rest hours of employees of the EMERCOM of Russia, whose activities are directly related to the conduct of emergency rescue operations [13, 14].

Conclusion

1. The results of the study indicate that the implementation of rehabilitation and recovery measures for rescuers in emergencies involves the use of new modern medical information technologies, the development of an optimal order, forms and modes of medical rehabilitation in order to preserve and maintain the professional health of the contingent.

2. There is no doubt that recovery and rehabilitation measures for rescuers who have signs of reduced adaptation as a result of professional activities should be based on a modern

Таблица 2/ Table No 2

Экспертная оценка ценностных ориентаций медицинской реабилитации спасателей в условиях ЧС

Expert assessment to determine the value orientations of medical rehabilitation of rescuers in emergency situations

№ вопроса Number of the question	Ценностные ориентации List of value orientations	Экспертная оценка Ранг «10», % Expert assessment Rank «10», %
1	Восстановление профессионально значимых качеств спасателей Restoration of professionally significant qualities of rescuers	36,52
2	Коррекция и нормализация психофункционального состояния спасателей Correction and normalization of the psychofunctional state of rescuers	27,37
3	Поддержание высокой работоспособности спасателей в ходе ликвидации последствий чрезвычайной ситуации Maintaining high efficiency of rescuers during the elimination of the consequences of an emergency situation	39,44
4	Своевременность проведения восстановительно-реабилитационных мероприятий Timeliness of correction and rehabilitation measures	24,16
5	Адаптация спасателей к условиям чрезвычайной ситуации Adaptation of rescuers to emergency conditions	28,33
6	Организация взаимодействия с различными структурами, задействованными в ликвидации последствий чрезвычайной ситуации (полиция, МЧС, военные и внештатные подразделения, волонтеры, местное население и т.д.) Organization of interaction of various structures involved in the elimination of consequences of an emergency (police, EMERCOM, military and freelance units, volunteers, local population, etc.)	28,49
7	Индивидуальный подход к проведению восстановительных мероприятий у спасателей Individual approach to the activities of recovery of rescuers	15,08
8	Оказание первичной медико-санитарной помощи (при необходимости) Provision of primary health care (if necessary)	27,94
9	Снятие эмоциональной напряженности у спасателей в ходе работы в чрезвычайной ситуации Relief of emotional tension among rescuers during work in an emergency situation	15,08
10	Создание оптимальной среды жизнедеятельности спасателей Creating an optimal life environment for rescuers	28,49

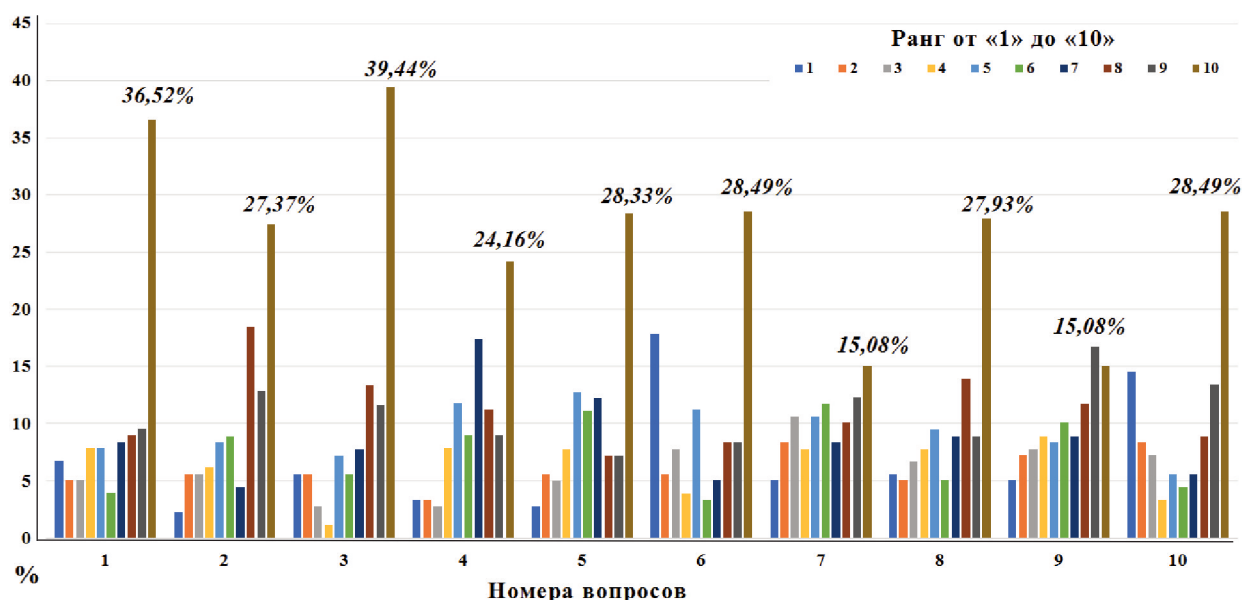


Рис. 3. Экспертная оценка ценностных ориентаций медицинской реабилитации спасателей в условиях ЧС, %
 Fig. 3. Expert assessment of the effectiveness of medical rehabilitation of rescuers in emergency situations environment

regulatory framework and comply with all modern requirements for information technology.

3. The use of the expert assessment method has confirmed the need for medical rehabilitation of rescuers in emergencies.

4. According to the authors, the primary task is to prepare the Draft guidelines for the organization and conduct of medical rehabilitation of rescuers and personnel of the Emergency Response Teams in the course of liquidation of the consequences of emergencies.

СПИСОК ИСТОЧНИКОВ

1. Всероссийскому центру медицины катастроф «Защита» Минздрава России – 20 лет: Сборник научных трудов. М.: ФГБУ «ВЦМК «Защита», 2013. С. 43–63.
2. Психология экстремальных ситуаций для спасателей и пожарных / Под общей ред. Шойгу Ю.С. М.: Смысл, 2007. 319 с.
3. Будникова Л.Н. Эффективность применения низкоэнергетической электромагнитной и световой терапии для коррекции невротических расстройств, связанных со стрессом, у участников ликвидации последствий чрезвычайных ситуаций: Автореф. дис. ... канд. мед. наук. М.: 2005. 25 с.
4. Вишневецкая М.В. Диагностика нарушений адаптации у спасателей и их коррекция на санаторном этапе реабилитации: Дис. канд. мед. наук. М., 2009. 115 с.
5. Лапин А.Ю. Медицинское сопровождение и реабилитация участников проведения специальных операций ФСБ России на амбулаторно-поликлиническом этапе: Автореф. дис. ... докт. мед. наук. М., 2002. 46 с.
6. Маневский А.П. Реализация концепции профессионального здоровья в программах медицинской реабилитации у лиц опасных профессий с неврологическими заболеваниями: Дис. докт. мед. наук. М., 2003. 282 с.
7. Медицинская и профессиональная реабилитация участников ликвидации последствий чрезвычайных ситуаций: современные методические подходы: Пособие для врачей / Под ред. докт. мед. наук, проф. Гончарова С.Ф., докт. мед. наук, проф. Преображенского В.Н. М.: ВЦМК «Защита», 1998. 52 с. (Библиотека Всероссийской службы медицины катастроф)
8. Баранова Н.Н., Бобий Б.В., Гончаров С.Ф., Назаренко Г.И., Одинцов Н.И. Информационно-телекоммуникационные технологии в деятельности Службы медицины катастроф Минздрава России // Медицина катастроф. 2019. №1. С. 5–11.
9. Григорьев С.И., Растов Ю.Е. Основы современной социологии. М., 2002. 256 с.
10. Режим ЧС [электронный ресурс] / <https://66.ru/news/society/229400/>
11. Смирнов В.Н. Психология управления персоналом в экстремальных условиях: Учебное пособие для студ. высш. учеб. заведений. М.: Издательский центр «Академия», 2007. 256 с.

REFERENCES

1. Vserossiyskomu Tsentru Meditsiny Katastrof «Zashchita» Minzdrava Rossii – 20 let. Sbornik nauchnykh trudov = All-Russian Center for Disaster Medicine Zashchita of the Ministry of Health of Russia is 20. Moscow, VTSMK Zashchita Publ., 2013, pp. 43–63 (In Russ.).
2. Psikhologiya Ekstremalnykh Situatsiy dlya Spasateley i Pozharnykh = Psychology of Extreme Situations for Rescuers and Firefighters. Ed. Shoygu Yu.S. Moscow, Smysl Publ., 2007, 319 p. (In Russ.).
3. Budnikova L.N. Effektivnost Primeneniya Nizkoenergeticheskoy Elektromagnitnoy i Svetovoy Terapii dlya Korrektsii Nevroticheskikh Rasstroystv, Svyazannykh so Stressom u Uchastnikov Likvidatsii Posledstviy = The Effectiveness of Low-Energy Electromagnetic and Light-Color Therapy for the Correction of Neurotic Disorders Associated with Stress in Participants of Emergency Response. Extended abstract of candidate's thesis in Medicine. Moscow Publ., 2005, 25 p. (In Russ.).
4. Vishnevskaya M.V. Diagnostika Narusheniy Adaptatsii u Spasateley i ikh Korrektsiya na Sanatornom Etape Reabilitatsii = Diagnosis of Adaptation Disorders in Rescuers and their Correction at the Sanatorium Stage of Rehabilitation. Candidate's thesis in Medicine. Moscow Publ., 2009, 115 p. (In Russ.).
5. Lapin A.Yu. Meditsinskoe Soprovozhdenie i Reabilitatsiya Uchastnikov Provedeniya Spetsialnykh Operatsiy FSB Rossii na Ambulatorepoliklinicheskom Etape = Medical Support and Re-habilitation of Participants in Special Operations of the FSB of Russia at the Outpatient Stage. Extended abstract of Doctor's thesis in Medicine. Moscow Publ., 2002, 46 p. (In Russ.).
6. Manevskiy A.P. Realizatsiya Kontseptsii Professionalnogo Zdorovya v Programakh Med-itsinskoй Reabilitatsii u Lis Opasnykh Professiy s Nevrologicheskimi Zabolevaniyami = Implementation of the Concept of Occupational Health in Medical Rehabilitation Programs for Persons in Dangerous Professions with Neurological Diseases. Doctor's thesis in Medicine. Moscow Publ., 2003, 282 p. (In Russ.).
7. Meditsinskaya i Professionalnaya Reabilitatsiya Uchastnikov Likvidatsii Posledstviy Chrezvychaynykh Situatsiy Sovremennye Metodicheskie Podkhody. Posobie dlya vrachey = Medical and Vocational Rehabilitation of Participants of Liquidation of Consequences of Emergency Situations: Contemporary Methodological Approaches. Ed. Goncharov S.F., Preobrazhenskiy V.N. Moscow, VTSMK Zashchita Publ., 1998, 52 p. (In Russ.).
8. Baranova N.N., Bobiy B.V., Goncharov S.F., Nazarenko G.I., Odintsov N.I. Information and Telecommunication Technologies in Activities of Service for Disaster Medicine of Ministry of Health of Russia. Meditsina Katastrof = Disaster Medicine. 2019; 1:5–11 (In Russ.). <https://doi.org/10.33266/2070-1004-2019-1-5-119>
9. Grigorev S.I., Rastov Yu.E. Osnovy Sovremennoy Sotsiologii = Fundamentals of Modern Sociology. Moscow Publ., 2002 (In Russ.).
10. [URL]: / <https://66.ru/news/society/229400/>
11. Smirnov V.N. Psikhologiya Upravleniya Personalom v Ekstremalnykh Usloviyakh = Psychology of Personnel Management in Extreme Conditions. Moscow, Akademia Publ., 2007, 256 p. (In Russ.).

Материал поступил в редакцию 30.10.20; статья принята после рецензирования 05.02.21; статья принята к публикации 10.02.21
 The material was received 30.10.20; the article after peer review procedure 05.02.21; the Editorial Board accepted the article for publication 10.02.21