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## ABSTRACT

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## ASSESSMENT OF PROFESSIONAL LIFE QUALITY AND RESILIENCE OF MEDICAL STAFF WORKING AT MILITARY TREATMENT AND REHABILITATION FACILITIES IN THE CONDITIONS OF WAR IN UKRAINE

**Introduction.** With the beginning of full-scale Russian aggression, the situation with mental health in Ukraine has significantly worsened. Medical workers who work with combatants during their treatment and rehabilitation are affected by secondary traumatic stress and also face a high level of professional stress, which can lead to a decrease in work efficiency and deterioration of health. Regular monitoring of professional life quality and timely implementation of measures aimed at increasing resilience level is extremely important for the successful professional activity of medical personnel who provide assistance to combatants.

**Objective.** The objective of this study was to assess the professional life quality and resilience level of medical personnel in military treatment and rehabilitation facilities.

**Materials and Methods.** 54 medical workers aged from 21 to 70 (average age –  $39.1 \pm 12.5$ ) years participated in the study, among whom 70.4% were women and 29.6% were men. The respondents' work experience ranged from 1.5 to 53 years and averaged  $18.0 \pm 13.3$  years. The majority of respondents (44.4%) were representatives of multidisciplinary hospitals. Among the survey participants, 27.8% were doctors, 16.6% were nurses, and 55.6% were other medical workers (nursing assistants, rehabilitation specialists). An online survey of participants was conducted using Google Forms. A questionnaire was developed consisting of several sections: the first section was an independently developed questionnaire that included biographical data of the participants; the second section was devoted to the study of the professional life quality of medical workers using the ProQOL-Health method; the third section was aimed at establishing the level of resilience according to the Connor-Davidson scale. Statistical analysis of the results

was performed using Excel program. Descriptive statistics and correlation analysis methods were used.

**Results.** Medical personnel in military treatment and rehabilitation facilities predominantly have an average level of resilience, both among all respondents altogether and in separate groups of men, women, and medical workers of different specialties, with a tendency for lower scores among women. All respondents had average scores on the scales “Perceived Support,” “Professional Burnout,” “Secondary Traumatic Stress,” and “Moral Distress.” In the group of nurses, the scores of perceived support tended to decrease, while secondary traumatic stress, professional burnout, and moral distress tended to increase. A difference was found with regard to “Compassion Satisfaction” among representatives of different professions. Physicians had a high level of compassion satisfaction; nurses and other healthcare workers had a medium level of compassion satisfaction, with nurses having the lowest level among others.

**Conclusions.** The assessment of the professional life quality of medical workers in military treatment and rehabilitation facilities shows that nurses are the most vulnerable category of personnel and have higher scores of professional burnout, moral distress, and secondary traumatic stress and lower scores of compassion satisfaction and perceived support. Medical workers with a higher level of resilience have higher scores of compassion satisfaction and perceived support. Persons with a lower level of resilience are more prone to professional burnout, secondary traumatic stress, and moral distress.

**Keywords:** war in Ukraine, mental health, quality of life, medical workers, combatants, resiliency, secondary traumatic stress, professional burnout.

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## ОЦІНКА ЯКОСТІ ПРОФЕСІЙНОГО ЖИТТЯ ТА РЕЗИЛЬЄНТНОСТІ МЕДИЧНОГО ПЕРСОНАЛУ ЗАКЛАДІВ ЛІКУВАННЯ І РЕАБІЛІТАЦІЇ КОМБАТАНТІВ В УМОВАХ ВІЙНИ В УКРАЇНІ

**Вступ.** З початком повномасштабної російської агресії ситуація з психічним здоров'ям в Україні значно погіршилась. Медичні працівники, які працюють із комбатантами у процесі їх лікування і реабілітації, зазнають впливу вторинної травматизації, а також стикаються з високим рівнем професійного стресу, що може призводити до зниження ефективності роботи та погіршення стану здоров'я. Для успішної професійної діяльності медичного персоналу, який надає допомогу комбатантам, вкрай важливим є регулярний моніторинг якості їх професійного життя і своєчасне впровадження заходів, спрямованих на підвищення рівня резильєнтності.

**Мета.** Метою даного дослідження була оцінка якості професійного життя і рівня резильєнтності медичного персоналу закладів лікування та реабілітації комбатантів.

**Матеріали та методи.** У дослідженні взяли участь 54 медичних працівника віком від 21 до 70 (середній вік - 39,1± 12,5)

років, серед яких 70,4 % були жінки, а 29,6 % - чоловіки. Стаж роботи респондентів коливався від 1,5 до 53 років і становив у середньому  $18,0 \pm 13,3$  р. Більшість респондентів (44,4 %) були представниками багатoproфільних лікарень. Серед учасників опитування було 27,8 % лікарів, 55,6 % медичних сестер та 27,8% інших медичних працівників (молодші медичні сестри, реабілітологи). Було проведено онлайн опитування учасників за допомогою Google Forms. Розроблений опитувальник складався з декількох розділів: перший розділ – самостійно розроблена анкета, яка включала анкетні дані учасників; другий розділ присвячений вивченню якості професійного життя медичних працівників за методикою ProQOL-Health; третій розділ спрямований на встановлення рівня резильєнтності за шкалою Коннора-Девідсона. Статистична обробка отриманих результатів проводилась із використанням програми Excel. Було використано методи описової статистики та кореляційний аналіз.

**Результати дослідження.** Медичний персонал закладів лікування і реабілітації комбатантів має переважно середній рівень резильєнтності, як серед усіх респондентів, так і у групах чоловіків, жінок і медичних працівників різних спеціальностей, з тенденцією до нижчих балів у жінок. За шкалами «Відчутна підтримка», «Професійне вигорання», «Вторинний травматичний стрес», «Моральні страждання» всі респонденти мали середній рівень значень показників. У групі медичних сестер показники показник відчутної підтримки мав тенденцію до зниження, а вторинний травматичний стрес, професійне вигорання і моральні страждання до збільшення. Виявлена різниця за шкалою «Задоволення від співчуття» у представників різних професій. Лікарі мали високий рівень задоволення від співчуття, медичні сестри та інші медичні працівники – середній, причому найнижчий рівень задоволення від співчуття був у медичних сестер.

**Висновки.** Проведена оцінка професійної якості життя медичних працівників закладів лікування і реабілітації комбатантів свідчить про те, що найбільш вразливою категорією персоналу є медичні сестри, які мають вищі показники професійного вигорання, моральних страждань, вторинного травматичного стресу та низькі показники задоволення від співчуття та відчутної підтримки. Медичні працівники з вищим рівнем резильєнтності мають вищі показники задоволення від співчуття і відчутної підтримки. Особи з нижчим рівнем резильєнтності більш схильні до професійного вигорання, вторинної травматизації і зазнають моральних страждань.

**Ключові слова:** війна в Україні, психічне здоров'я, якість життя, медичні працівники, комбатанти, резильєнтність, вторинний травматичний стрес, професійне вигорання.

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## INTRODUCTION / ВСТУП

With the beginning of full-scale Russian aggression, the situation with mental health in Ukraine has significantly worsened [1]. 11% of Ukrainians estimate

their physical health as unsatisfactory, 51% – as satisfactory, 77% – feel stressed or very nervous [2]. The demand for psychological help in 2023 almost doubled compared to the previous year [3]. The medical

staff in military treatment and rehabilitation facilities work in specific conditions, constantly facing injuries, physical and mental suffering of combatants. Providing qualified and urgent help to others, a medical worker is in a permanent stressful situation, which often leads to personal insecurity [4]. It has been proven that medical workers constantly dealing with patients who experienced various types of losses as a result of the war suffer themselves from symptoms of depression, anxiety, and stress [5]. Professional risks related to the professional activities of medical personnel working at military treatment and rehabilitation facilities (constant stress, professional burnout, professional deformation) lead to a violation of the balance between positive and negative changes in the personality of a specialist and create conditions for professional and personal destruction, in particular, decreased effectiveness of professional activity, disruption of interaction with colleagues and patients, significant reduction in activities quality and productivity, poor work satisfaction; all these issues can negatively affect individual's life and mental health in the future [6].

It should be noted that an important factor in maintaining the health of medical workers and their successful professional activity is resilience, i.e., the ability to cope with traumatic events and their consequences [7]. The psychological factors and mechanisms of the resilience of medical workers working in the conditions of war in Ukraine have not been sufficiently studied. There is no data on the connection of resilience with the specifics of the medical professional activity in the military treatment and rehabilitation facilities (secondary traumatic stress, professional burnout, constant stress, loss of motivation, high level of responsibility and social involvement), which determine the quality of life and affect the success of professional activities. There is a lack of scientifically based algorithms for increasing the resilience of this category of workers.

Thus, timely assessment of professional life quality and monitoring of the resilience level of medical personnel in military treatment and rehabilitation facilities is an important and urgent problem in the conditions of the war in Ukraine. The solution to the problem will be an important step in the search for effective technologies to maintain mental health and successful professional activity of medical workers.

### Materials and Methods

54 medical workers aged from 21 to 70 (average age –  $39.1 \pm 12.5$ ) years participated in the study, among whom 70.4% were women and 29.6% were men. The respondents' work experience ranged from 1.5 to 53 years and averaged  $18.0 \pm 13.3$  years. The majority of

respondents (44.4%) were representatives of multidisciplinary hospitals. The majority of participants (61.1%) worked in medical facilities at a distance of 10–50 km from the combat zone. Among the survey participants, 27.8% were doctors, 16.6% were nurses, and 55.6% were other medical workers (nursing assistants, rehabilitation specialists).

An online survey of participants was conducted using Google Forms in March 2024. The questionnaire consisted of several sections: the first section was an independently developed questionnaire that included biographical data of the participants; the second section was devoted to the study of professional life quality of medical workers using the ProQOL-Health method [8]; the third section was aimed at establishing the level of resilience according to the Connor-Davidson scale [9; 10]. The research was conducted in compliance with the basic ethical principles of the Declaration of Helsinki of the World Medical Association on conducting scientific medical research involving human subjects. All participants were informed that their participation in the study was voluntary. Full confidentiality of the research was ensured. We used depersonalized information in the statistical analysis and recorded only general demographic data about the respondents (gender, age, work experience, profession, etc.).

Statistical analysis of the results was performed using Excel program. Descriptive statistics and correlation analysis methods were used. The difference in the distribution of respondents by different scales was tested using Pearson's chi-squared test. A p-value of  $<0.05$  was considered statistically significant.

### Results

We used the descriptive statistics method for resilience scores (obtained by the Connor-Davidson Scale (CD-RISC-10)) of medical workers working at military treatment and rehabilitation facilities. The results are presented in Table 1. Several subgroups were selected for this analysis: all surveyed respondents, subgroups stratified by gender (men, women) and type of professional activity (doctors, nurses, and other medical workers).

As we can see from the answers of all respondents, the results of the mean value (28.33 points), mode (29 points), and median value (29 points) correspond to the average level of resilience. Results of descriptive statistics in subgroups of women and men and in subgroups of professional activity indicated an average level of resilience in all workers with a tendency to decreased resilience in nurses (Table 1). There was no statistically significant difference in the distribution of respondents with different resilience levels between separate groups of respondents (Table 2).

Table 1 –

**Descriptive statistics of Resilience Scale scores of medical staff working at military treatment and rehabilitation facilities**

Respondents	Criteria of descriptive statistics				
	Mean value (X)	Mode (M <sub>o</sub> )	Median (M <sub>e</sub> )	Standard deviation (Σ)	Coefficient of variation (V)
All respondents	28.33	29	29	6.31	22%
Female	28.13	30	30	6.83	24%
Male	28.81	29	29	5.05	18%
Physicians	28.07	29	29	5.48	20%
Nurses	26.11	30	26	8.18	31%
Other medical staff	29.13	29	30	6.14	21%

Table 2 –

**Distribution of medical staff working at military treatment and rehabilitation facilities by levels of resilience**

Levels of resilience	Respondents (n, %)					Other medical staff
	All respondents	Female	Male	Physicians	Nurses	
Low	17 (31.48)	12 (31.58)	5 (31.25)	4 (26.67)	4 (44.44)	9 (30.00)
Average	26 (48.15)	19 (50.00)	7 (43.75)	8 (53.33)	4 (44.44)	14 (46.67)
High	11 (20.37)	7 (18.42)	4 (25.00)	3 (20.0)	1 (11.11)	7 (23.33)
P		P <sub>1</sub> =0.97; P <sub>2</sub> =0.91; P <sub>3</sub> =0.85		P <sub>4</sub> =0.94; P <sub>5</sub> =0.68; P <sub>6</sub> =0.95; P <sub>7</sub> =0.64; P <sub>8</sub> =0.91; P <sub>9</sub> =0.62		

Note: n – number of respondents, P – statistical significance of the difference according to Pearson's chi-squared test between different groups of respondents (P<sub>1</sub> – all respondents vs. women; P<sub>2</sub> – all respondents vs. men; P<sub>3</sub> – women vs. men; P<sub>4</sub> – all respondents vs. doctors; P<sub>5</sub> – all respondents vs. nurses; P<sub>6</sub> – all respondents vs. other medical workers; P<sub>7</sub> – doctors vs. nurses; P<sub>8</sub> – doctors vs. other medical workers; P<sub>9</sub> – nurses vs. other medical workers)

Table 3 presents the results of descriptive statistics used for the professional life quality of medical workers according to the scales "Compassion Satisfaction," "Perceived Support," "Professional Burnout," "Secondary Traumatic Stress," and "Moral Distress."

The results of descriptive statistics according to the scale "Compassion Satisfaction" showed the average level both among all respondents and in subgroups by gender. It should be noted that there was a tendency to increased level of compassion satisfaction in women (mode 26 vs. 23 in men = high level). A difference was found in compassion satisfaction levels among representatives of different professions. Physicians had a high level of compassion satisfaction; nurses and other healthcare workers had a medium level of compassion satisfaction, with nurses having the lowest level among others.

The data we obtained according to the scale "Perceived Support" showed the average level both in the general group and separately among women and men. There was a trend towards higher levels of perceived support in women (mean value 21.24 vs. 20.38 in men; mode 21 vs. 19, median value 21 vs. 20). The level of perceived support among medical workers of various professions was at an average level. As a result of the analysis, a tendency to a decreased level of perceived support among nurses was observed (mean value 20.0 vs. 21.33 in doctors and 22.10 in other medical staff).

The level of professional burnout was average both in the general group and in subgroups by gender and professional activity. However, there was a tendency to increased level of professional burnout in men (mean value 16.69 vs. 16.11 in women; mode 20 vs. 17, median value 18 vs. 17) and nurses (mean value 18.0 vs. 15.67 in doctors and 16.07 in other medical workers).

Table 3 –

**Descriptive statistics of life quality scores of medical staff working at military treatment and rehabilitation facilities**

Criteria of descriptive statistics	Subscale				
	Compassion Satisfaction	Perceived Support	Professional Burnout	Secondary Traumatic Stress	Moral Distress
All respondents					
X	22.85	20.98	16.28	15.15	14.85
M <sub>o</sub>	22	21	17	14	13
M <sub>e</sub>	23	21	17	14	14
Σ	4.03	3.86	4.89	3.68	3.89
V	0.18	0.18	0.30	0.24	0.26
Female					
X	22.63	21.24	16.11	15.42	14.84
M <sub>o</sub>	26	21	17	14	14
M <sub>e</sub>	23	21	17	15	14
Σ	4.30	3.94	4.80	3.80	4.07
V	0.19	0.19	0.29	0.25	0.27
Male					
X	23.38	20.38	16.69	14.50	14.88
M <sub>o</sub>	23	19	20	15	15
M <sub>e</sub>	23	20	18	14	15
Σ	3.36	3.74	5.24	3.39	3.56
V	0.14	0.18	0.31	0.23	0.24
Physicians					
X	24.07	21.33	15.67	14.73	14.93
M <sub>o</sub>	25	18	17	14	17
M <sub>e</sub>	24	21	16	14	15
Σ	3.06	3.60	5.46	4.13	3.96
V	0.13	0.17	0.35	0.28	0.27
Nurses					
X	21.33	20.00	18.00	17.11	15.56
M <sub>o</sub>	22	19	18	18	14
M <sub>e</sub>	21	20	18	18	14
Σ	3.67	2.78	5.96	5.04	5.10
V	0.17	0.14	0.33	0.29	0.33
Other medical staff					
X	22.70	21.10	16.07	14.77	14.60
M <sub>o</sub>	23	21	17	14	13
M <sub>e</sub>	23	21	17	14	14
Σ	4.47	4.30	4.28	2.84	3.56
V	0.20	0.20	0.27	0.19	0.24

Note: X – mean value, M<sub>o</sub> – mode, M<sub>e</sub> – median value, Σ – standard deviation, V – coefficient of variation

In the general group, the level of secondary traumatic stress was average. A trend towards an increased score was revealed in women (mean value 15.42 vs. 14.50 in men). Also, among medical workers of various professions, the average level of secondary traumatic stress was registered, with an increasing tendency in nurses (mean value 17.11 vs. 14.73 in doctors and 14.77 in other medical workers).

The results of descriptive statistics on the scale "Moral Distress" indicated the average level both in the general group and in all subgroups. The level of moral distress tended to increase in nurses (mean value 15.56 vs. 14.93 in doctors and 14.60 in other medical workers).

Thus, the ProQOL-Health scale assessment of the professional life quality of medical staff working at military treatment and rehabilitation facilities demonstrated certain positive and negative changes in various subgroups of employees. Thus, among doctors, there was a tendency to increased level of compassion

satisfaction. Nurses were more likely to have moral distress, burnout, and secondary traumatic stress; they had a lower level of compassion satisfaction and perceived support. Some gender characteristics of the professional life quality of medical personnel were revealed. In the group of men, an increased level of professional burnout was registered. Women had a higher level of compassion satisfaction and perceived support, but were more likely to have secondary traumatic stress.

The next stage of the analysis was represented by the study of differences in subject distribution in different groups according to the professional life quality scores. Table 4 shows the distribution of subjects (all respondents, women, men, doctors, nurses, other medical workers) by levels (low, high, average) of life quality scores ("Compassion Satisfaction," "Perceived Support," "Professional Burnout", "Secondary Traumatic Stress", "Moral Distress") of medical workers working at military treatment and rehabilitation facilities.

Table 4 –

**Distribution of medical staff working at military treatment and rehabilitation facilities by life quality levels (%)**

Level	Subscale				
	Compassion Satisfaction	Perceived Support	Professional Burnout	Secondary Traumatic Stress	Moral Distress
All respondents					
Low	1.85	1.85	25.93	20.37	20.37
Average	55.56	72.22	68.52	79.63	79.63
High	42.59	25.93	5.56	0.00	0.00
Female					
Low	2.63	2.63	23.68	15.79	15.79
Average	55.26	68.42	71.05	84.21	84.21
High	42.11	28.95	5.26	0.00	0.00
Male					
Low	0.00	0.00	31.25	31.25	31.25
Average	56.25	81.25	62.50	68.75	68.75
High	43.75	18.75	6.25	0.00	0.00
Physicians					
Low	0.00	0.00	33.33	26.67	26.67
Average	40.00	73.33	60.00	73.33	73.33
High	60.00	26.67	6.67	0.00	0.00
Nurses					
Low	0.00	0.00	22.22	22.22	22.22
Average	77.78	88.89	55.56	77.78	77.78
High	22.22	11.11	22.22	0.00	0.00
Other medical staff					
Low	3.33	3.33	23.33	16.67	16.67
Average	56.67	66.67	76.67	83.33	83.33
High	40.00	30.00	0.00	0.00	0.00

Table 5 shows the difference in the distribution of subjects from different groups according to life quality scales using Pearson's chi-squared test. As we can see, on most scales, there was a difference in the distribution of subjects in all groups of respondents. By the scale "Professional Burnout," the differences were not statistically significant in the group of nurses.

The results of the correlation analysis are presented in Table 6. In medical workers of military treatment

and rehabilitation facilities, we observed a significant positive correlation of resilience score with the scales "Compassion Satisfaction" ( $r_{cr} = 0.63$ ;  $p \leq 0.01$ ) and "Perceived Support" ( $r_{cr} = 0.63$ ;  $p \leq 0.01$ ), and negative correlation – with the scales "Professional Burnout" ( $r_{cr} = -0.54$ ;  $p \leq 0.01$ ), "Secondary Traumatic Stress" ( $r_{cr} = -0.43$ ;  $p \leq 0.01$ ), and "Moral Distress" ( $r_{cr} = -0.41$ ;  $p \leq 0.01$ ). Statistically significant correlations are shown in Figure 1.

Table 5 –

**Comparison of life quality scores distribution of medical staff working at military treatment and rehabilitation facilities**

Respondents	Compassion Satisfaction	Perceived Support	Professional Burnout	Secondary Traumatic Stress	Moral Distress
All respondents	25.4**	41.4**	33.4**	55.4**	55.4**
Female	17.1**	25.0**	26.3**	45.7**	45.7**
Male	8.4*	17.4**	7.6*	11.4**	11.4**
Physicians	8.4*	12.4**	6.4*	12.4**	12.4**
Nurses	8.7*	12.7**	2	8.7*	8.7*
Other medical staff	13.4**	18.2**	27.8**	35.0**	35.0**

Note: The table shows the Pearson's chi-squared test values;

\* indicates the level of statistical significance at  $P = 0.05$ ;

\*\* indicates the level of statistical significance at  $P = 0.01$

Table 6 –

**Correlations between resilience and quality of life (compassion satisfaction, perceived support, professional burnout, secondary traumatic stress, moral distress) in professional medical workers working at military treatment and rehabilitation facilities**

	Resilience	Compassion Satisfaction	Perceived Support	Professional Burnout	Secondary Traumatic Stress	Moral Distress
Resilience	1					
Compassion Satisfaction	0.63*	1				
Perceived Support	0.63*	0.66*	1			
Professional Burnout	-0.54*	-0.62*	-0.63*	1		
Secondary Traumatic Stress	-0.43*	-0.37*	-0.33*	0.63*	1	
Moral Distress	-0.41*	-0.37*	-0.52*	0.61*	0.71*	1

Note.  $*r_{cr} = 0.34$  at  $p \leq 0.01$



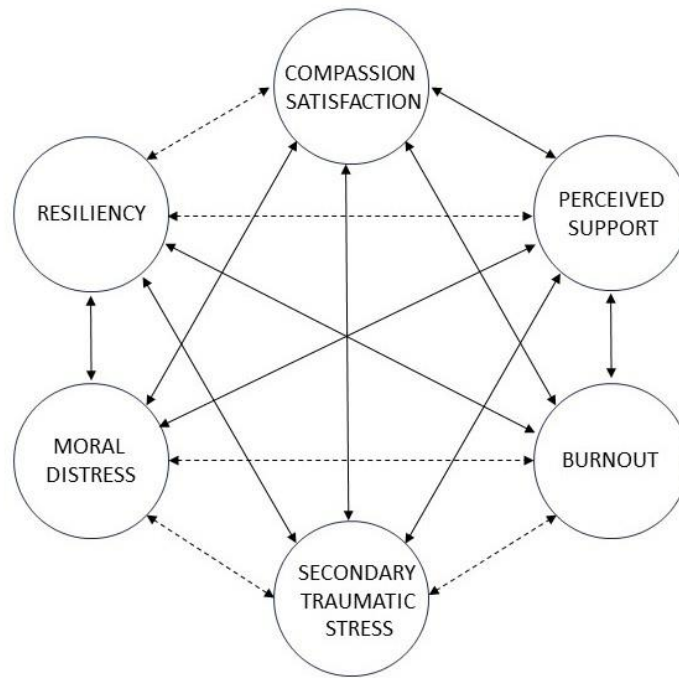


Figure 1 – Significant correlations between resilience scores and life quality of medical workers (compassion satisfaction, perceived support, professional burnout, secondary traumatic stress, moral distress). Solid lines represent negative correlations, dotted lines represent positive correlations

Thus, medical workers with a higher level of resilience have higher scores of compassion satisfaction and perceived support. Persons with a lower level of resilience are more prone to professional burnout, secondary traumatic stress, and more severe moral distress.

### Discussion

The professional life quality of medical workers is determined by a number of factors, including the personal traits of the worker and the characteristics of the workplace. In our study, the professional life quality was assessed according to the ProQOL-Health scale, which takes into account five important components: compassion satisfaction, perceived support, professional burnout, secondary traumatic stress, and moral distress.

**Compassion Satisfaction.** Within this subscale, we studied the pleasure derived from the feeling of being effective in one's work as a health worker, positive feeling about one's colleagues or one's ability to contribute to the work setting or the greater good of society. In our study, respondents had an average level of compassion satisfaction. Investigating professional fulfillment and burnout in a cohort of rehabilitation specialists, A. Amano et al. emphasized the importance of increasing professional satisfaction and perceived support, and improving strategies to promote harmony between work and personal life. Among the possible steps to increase professional satisfaction, the authors

listed work intensity reduction, priorities determination and establishing relationships with colleagues. Investing in mental health is a necessary component of lifestyle regulation [11]. The importance of mental health maintenance in medical workers is also emphasized in other publications [12; 13].

**Perceived Support.** This subscale assesses the sense of having access to effective assistance when the medical worker needs it. Support can be offered in many ways, including providing the ability to delegate one's tasks when one's own capacity is overwhelmed; offering useful advice; collaborating in order to solve difficult problems; distracting from anxiety during work; or offering emotional support and empathy when one's suffering troubles. We found that the medical workers we surveyed had an average level of perceived support, with an increasing tendency in women and a decreasing tendency in nurses. The importance of perceived support is emphasized in the works of R. Cieslak et al. [14] and E. Halady et al. [15]. In addition, it has been shown that professional life quality depends on mindful self-care, coping, and meaning in life. Perceived support increases the responsibility of medical workers, the level of life satisfaction, and professional life quality [16].

**Professional burnout** is another risk for medical workers who provide treatment and rehabilitation services to combatants. Its consequences are: loss of

empathy due to constant emotional investment; decreased efficiency and poor interest in professional activities; a deterioration of mutual understanding, conflicts in the team; problems with health, and a deterioration in the quality of life. Medical workers who experience burnout often have very high workloads and little opportunity for rest or have to work in hostile environments. In our study, the interviewed respondents had an average level of professional burnout. The scores were the highest among nurses. The prevalence of professional burnout among healthcare professionals is extremely high worldwide. On average, in the healthcare industry, this indicator ranges from 40 to 60% [17]. Burnout affects the physical and mental health of medical workers and may cause a decrease in professional efficiency [18–21]. An increase in the degree of professional burnout correlates with a low level of optimism, a lack of meaning in life, and limited social relationships [13, 22; 23]. The work of J. Maben et al. also provides data that nurses are more likely to develop professional burnout [24]. According to the authors, this category of medical workers has the highest rates of mental health disorders.

*Secondary traumatic stress* is one of the main features of medical professional activity related to working with combatants. Secondary traumatic stress can have serious consequences for the mental and physical health of medical workers and, as a result, may lead to decreased work productivity, an increased risk of professional errors, and a worse quality of medical care [14; 25]. According to the publications of a number of authors, secondary traumatic stress is experienced by 5 to 15% of specialists working with injured persons [26–28]. In our study, we observed an average level of secondary traumatic stress in the medical staff of military treatment and rehabilitation facilities. In addition, this score tended to increase in women. Other studies also reported an increased rate of secondary traumatic stress in women working with injured persons [28–31]. However, all authors emphasize that the conclusions regarding gender differences in sensitivity to secondary stress are ambiguous and require further research.

*Moral Distress.* Medical workers are often faced with difficult situations and choices. Sometimes, circumstances or instructions force them to act in a way that goes against their personal values, beliefs, and morals. These work-related issues can lead to long-term internal confusion, which can negatively affect the quality of life. Moral discomfort of this kind is associated with feelings of guilt, shame, and resentment [32].

Researching the peculiarities of the professional activity of medical workers, especially in crisis conditions, scientists emphasize the important role of resilience in ensuring the quality performance of their

duties and maintaining their own health [33]. Today, there are many definitions and models of resilience, while the nature of the phenomenon, its features, structure, and characteristics have not been fully elucidated. Most often, the phenomenon of resilience is associated with a person's ability to adapt to adverse circumstances. The development of personal resilience-oriented personality qualities, social relationships, and improvement of workplaces are important areas of professional development of medical workers prone to secondary traumatic stress and professional burnout as a result of their professional activities. There are a number of parameters that contribute to increasing resilience. Thus, C. Matheson offers a model of resilience for primary care workers who work in challenging conditions, which includes personal characteristics (optimism, sense of humor, adaptability, organizational skills, flexibility, leadership, tolerance, adherence to professional boundaries, perseverance, and self-esteem), characteristics of the workplace (support from colleagues and decision-makers, corporate culture, favorable atmosphere, a sense of meaningfulness of one's work, space for recovery, time for rest), and social relations (support by family and environment, leisure time, interests and hobbies) [34]. A. Stevenson et al., after having studied the resilience of Australian doctors working in challenging conditions, added to this list deep gratitude and respect from patients, intellectual involvement in the work itself, and the ability to control one's own working time [35]. E. Penix et al. emphasized the importance of family ties [36].

Taking into account that collective responsibility is one of the professional features of the medical staff working at military rehabilitation facilities, the importance of social resilience should be underlined [37]. Its high level ensures effective interaction of personnel, which can be one of the factors preventing secondary traumatic stress and an effective mechanism for the implementation of professional activities in crisis periods [38].

It should be noted that the level of resilience depends on the type of professional activity of medical workers. Most studies indicate a lower level of resilience in nurses [39; 40]. Our research also confirms this trend.

Therefore, finding approaches to increase resilience is the primary task of ensuring successful activity and a necessary condition for the professional development of medical workers, especially in crisis conditions. In the conditions of the war in Ukraine, the implementation of this task should take place in three directions: the development of resilience-oriented personality qualities, the improvement of professional conditions at the workplace, and the improvement of social ties.

**CONCLUSIONS / ВИСНОВКИ**

The assessment of the professional life quality of medical workers in military treatment and rehabilitation facilities shows that nurses are the most vulnerable category of personnel and have higher scores of professional burnout, moral distress, and secondary traumatic stress and lower scores of compassion

satisfaction and perceived support. Medical workers with a higher level of resilience have higher scores of compassion satisfaction and perceived support. Persons with a lower level of resilience are more prone to professional burnout, secondary traumatic stress, and moral distress.

**PROSPECTS FOR FUTURE RESEARCH / ПЕРСПЕКТИВИ ПОДАЛЬШИХ ДОСЛІДЖЕНЬ**

To investigate the impact of various resilience-increasing technologies on the life quality of medical personnel working at military treatment and rehabilitation facilities.

**AUTHOR CONTRIBUTIONS / ВКЛАД АВТОРІВ**

Harbuzova V. Ju.: idea and study design; data collection and analysis; statistical analysis; writing the paper; final approval of the paper.

Ulundova H. Je: idea and study design; critical review; final approval of the paper.

Myunenko S. V.: statistical analysis; writing the paper.

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None.

**CONFLICT OF INTEREST / КОНФЛІКТ ІНТЕРЕСІВ**

The authors declare no conflict of interest.

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