

ТЕРАПІЯ ТА РЕАБІЛІТАЦІЯ

IMPLEMENTATION OF COMPLEX REHABILITATION OF DISABLED VETERANS OF THE RUSSIAN-UKRAINIAN WAR IN INSTITUTIONS OF HIGHER EDUCATION

РЕАЛІЗАЦІЯ КОМПЛЕКСНОЇ РЕАБІЛІТАЦІЇ ВЕТЕРАНІВ РОСІЙСЬКО-УКРАЇНСЬКОЇ ВІЙНИ З ІНВАЛІДНІСТЮ У ЗАКЛАДАХ ВИЩОЇ ОСВІТИ

Klos L. Ye.¹, Blavt O. Z.², Kovalchuk O. P.³

^{1,2}Lviv Polytechnic National University, Lviv, Ukraine

³National Defense University of Ukraine, Kyiv, Ukraine

¹ORCID: 0000-0001-9972-7450

²ORCID: 0000-0001-5526-9339

³ORCID: 0000-0002-4571-482X

DOI <https://doi.org/10.32782/2522-1795.2024.18.3.1>

Abstracts

Despite the war, Ukraine consistently continues to implement important changes in institutions of higher education in order to create conditions for the effective rehabilitation of veterans of the Russian-Ukrainian war with disabilities who acquire the status of students. **The purpose of the work** was to identify the state of implementation of physical rehabilitation and interrelationships in the implementation of complex rehabilitation of students of Russian-Ukrainian war veterans with disabilities in a higher education institution. **Material and methods.** The research involved implementation at the theoretical (literary sources, synthesis and generalization) and empirical (survey in the form of questionnaires, methods of mathematical statistics for processing questionnaire data) levels. All students (32 persons) who are involved in the research as respondents are veterans of the Russian-Ukrainian war who received disabilities as a result of participation in hostilities. **The results.** It has been studied that the rehabilitation of disabled former combatants is a complex process that is accompanied by numerous obstacles and, therefore, complicated by many factors. Especially if it takes place in the space of a higher education institution and under martial law. It was found that the goal of complex rehabilitation of disabled veterans is to obtain an optimal level of work capacity, restoration of social activity, development and affirmation of personality. The relationship between the components of complex rehabilitation of veterans with disabilities in the conditions of study at a higher education institution and the impact of such rehabilitation on the physical and psychological state of veterans with disabilities and the state of social communication has been established. According to our analysis, there is a strong negative linear relationship between physical rehabilitation and the state of social ($r = -0.720$) and psychological rehabilitation ($r = -0.803$). **Conclusions.** Changes taking place now in higher education, and especially since the full-scale invasion of Russia on the territory of Ukraine, are manifested in increased attention to the problems of comprehensive rehabilitation of veterans with disabilities in the process of obtaining an education. There is an established need today to create a modern system of comprehensive multidisciplinary rehabilitation in institutions of higher education, which should be aimed at ensuring the relatively independent life of students of Russian-Ukrainian veterans with disabilities.

Key words: complex rehabilitation, physical rehabilitation, veteran of the Russian-Ukrainian war, disability, student.

Попри війну, Україна послідовно продовжує втілювати важливі зміни у закладах вищої освіти задля створення умов ефективної реабілітації ветеранів російсько-української війни з інвалідністю, які набувають статусу здобувачів вищої освіти. **Мета роботи** полягала у виявленні стану реалізації

фізичної реабілітації та взаємозв'язків у реалізації комплексної реабілітації здобувачів вищої освіти, які є ветеранами російсько-української війни з інвалідністю, у закладі вищої освіти. **Матеріал та методи.** Дослідження передбачало реалізацію на теоретичному (літературних джерел, синтезу та узагальнення) та емпіричному (опитування у формі анкетування, методи математичної статистики для оброблення даних анкетування) рівнях. Усі здобувачі вищої освіти (32 особи), які залучені до дослідження як респонденти, є ветеранами російсько-української війни, які отримали інвалідність у результаті участі у бойових діях. **Результати.** Досліджено, що реабілітація колишніх учасників бойових дій з інвалідністю – це комплексний процес, який супроводжується численними перешкодами, а тому ускладнений багатьма факторами. Особливо якщо він відбувається у просторі закладу вищої освіти та в умовах воєнного стану. З'ясовано, що метою комплексної реабілітації ветеранів з інвалідністю є отримання оптимального рівня працездатності, відновлення соціальної активності, розвитку та утвердження особистості. Установлено взаємозв'язок складників комплексної реабілітації ветеранів з інвалідністю в умовах навчання у закладі вищої освіти та вплив такої реабілітації на фізичний та психологічний стан ветеранів з інвалідністю та стан соціального спілкування. Згідно з нашим аналізом, між фізичною реабілітацією та станом соціальної ($r = -0,720$) й психологічної реабілітації ($r = -0,803$) є сильна негативна лінійна залежність. **Висновки.** Зміни, що відбуваються нині у вищій школі і особливо з моменту повномасштабного вторгнення росії на територію України, проявляються у посиленні уваги до проблем комплексної реабілітації ветеранів з інвалідністю в процесі здобуття освіти. Установлена потреба нині створювати сучасну систему комплексної багатопрофільної реабілітації у закладах вищої освіти, яка повинна бути спрямована на забезпечення відносно незалежної життєдіяльності здобувачів вищої освіти ветеранів російсько-української з інвалідністю.

Ключові слова: комплексна реабілітація, фізична реабілітація, ветеран російсько-української війни, інвалідність, здобувач вищої освіти.

Introduction. Taking into account the fact that hostilities on the territory of Ukraine have been going on for 10 years in a row, the number of veterans of the Russian-Ukrainian war is increasing, especially rapidly during the last two years. As a result of the long-term aggression of the Russian Federation in Ukraine, there are currently 1.2 million veterans with disabilities as a result of the Russian-Ukrainian war [13]. It is predicted [21] that the number of persons who will have this status after the war will increase at least 4 times and may reach 5 million.

It has been established [25] that the full treatment of veterans with disabilities due to war cannot be separated from their full rehabilitation. It was determined [3] that such a narrative is the basis of building an inclusive society and the implementation of a modern state policy of protecting the most vulnerable during war. At the state level, a standard plan for the rehabilitation of veterans with disabilities as a result of the war, providing them with means for rehabilitation, an individual rehabilitation plan and the procedure for its implementation was approved [27]. It is important that the transformation of rehabilitation procedures and services that veterans regularly encounter takes place within the framework of the concept of recovery of Ukraine.

As defined [7], the rehabilitation of disabled war veterans is aimed at the maximum possible recovery of the health and working capacity of disabled veterans, and involves the full implementation of complex measures in the implementation of medical, psychological, physical and social rehabilitation. Each of these aspects has been researched and proven to play an important role in the recovery process. Therefore, ensuring the effective complex rehabilitation of veterans with disabilities as a result of the war is an urgent issue that is currently facing not only military, but also civilian medicine, the field of physical culture, social work, psychotherapy and related fields of knowledge.

The rehabilitation of disabled veterans and their reintegration into civilian life based on an integrated approach is defined [21] as an urgent task for the Ministry of Veterans Affairs of Ukraine. Today, in the Ukrainian scientific space, the topic of rehabilitation of veterans with disabilities due to the war occupies an important place, since the tendency to increase their number, as they believe [26], will obviously continue in the future.

Due to the consequences of the war, one of the phenomena observed today is the increasing

burden on the education system. Normative provisions of the EU and leading countries of the world confirm the right of persons with disabilities to receive quality education without any manifestations of discrimination [29]. Despite the war, Ukraine consistently continues to implement important changes in institutions of higher education in order to create conditions for the effective rehabilitation of veterans of the Russian-Ukrainian war with disabilities who acquire the status of students.

Analysis of recent research and publications. There is no doubt about the opinion [2] that in the near future Ukraine needs effective methods of rehabilitation, which will be based on real data and needs of veterans with disabilities due to the war. Despite this, it is stated [5] that the rehabilitation of war veterans with disabilities in higher education often has only a declarative nature, which additionally actualizes the stated problem in connection with long-term hostilities on the territory of Ukraine, and, therefore, a permanent increase in veterans with disabilities due to war in institutions of higher education.

The need for a thorough and effective analysis of the possibilities of higher education institutes in the implementation of complex rehabilitation of veterans with disabilities in educational conditions was determined [32]. The importance of complex rehabilitation of veterans with disabilities due to war for the full restoration of their functions and the opportunity to fully work and live in society is studied in works [1; 20; 22; 31].

There is no doubt that the issue of modernization of the process of rehabilitation of war veterans requires careful attention [30]. In particular, the issue of the use of the latest technologies and the development of special devices for physical rehabilitation [2; 17]. An integral approach to the study of complex rehabilitation of veterans with disabilities was and remains popular in scientific discourse [11; 12].

The scientific interest of researchers from different countries of the world [10; 13; 18] is focused on the possibilities of comprehensive rehabilitation as an effective means of preserving the health, well-being, and social inclusion of veterans with disabilities.

According to [9; 19], there is a growing need for a thorough study of the entire spectrum of possibilities for the implementation of complex rehabilitation of veterans with disabilities during their studies in higher education institutions, given that this phenomenon is unprecedented in relation to the increase in the number of such students. As stated [1], this process is extremely difficult, since vulnerable categories of students suffer the most from the consequences of war [10; 18] recognize the complex rehabilitation of disabled veterans as an even more difficult process, given the presence of numerous barriers to access to social and educational opportunities.

In the process of studying this topic, we drew attention to the fact that the most unexplored issue is the issue of rehabilitation of war veterans with disabilities in the process of studying in higher education institutions. Despite the broad resonance of the raised issues, there are still many unresolved issues in the higher education system regarding the implementation of complex rehabilitation of students who are veterans of the Russian-Ukrainian war with disabilities in the conditions of higher education.

Based on the analysis of theoretical sources, legislative acts (of the Ministry of Veterans Affairs of Ukraine, the Ministry of Health, the Ministry of Defense of Ukraine, as well as the practical experience of individual institutions of higher education, in particular the Lviv Polytechnic, it can be stated that the formation of a new model of comprehensive rehabilitation of war veterans with disabilities in the conditions of a higher education institution is taking place. It is very important that a comprehensive approach to rehabilitation with the use of a multidisciplinary team of specialists was the basis of such a process. This approach is extremely relevant for the near future when a large number of former combatants with disabilities will return to civilian life after obtaining an education.

The purpose of the research is to identify the state of implementation of physical rehabilitation and interrelationships in the implementation of complex rehabilitation of students of veterans of the Russian-Ukrainian war with disabilities in a higher education institution.

Materials and methods. *Research methods.* The study involved implementation at the theoretical and empirical levels. At the theoretical level, the analysis of literary sources, synthesis, and generalization was implemented. On the empirical side: surveys in the form of questionnaires, and methods of mathematical statistics for processing questionnaire data.

To carry out research and obtain factual information, the method of selective questionnaires was used, which is a fairly easy way of finding new knowledge. In our study, the questionnaire was used as the main method of collecting quantitative and qualitative information.

Study participants. The main limitation of our empirical study is the number of respondents – 32, and the lack of consideration of gender and age factors, since all respondents are men. All students involved in the research as respondents who are veterans of the Russian-Ukrainian war, who received a disability as a result of participation in hostilities, were offered to take part in the questionnaire on a voluntary basis.

The research was carried out in compliance with ethical standards. The study was planned and carried out following the principles of bioethics set forth by the World Medical Association (WMA-2013) in the Helsinki Declaration “Ethical Principles of Medical Research Involving Humans” and UNESCO in the “General Declaration on Bioethics and Human Rights”.

Research organization. We have developed a questionnaire that is offered to students of war veterans with disabilities in the 2nd–4th year of study at the Lviv Polytechnic National University. When implementing the questionnaire, use the principles of independence, anonymity, confidentiality and impartiality, as there are no right or wrong answers.

Statistical analysis. Methods of descriptive statistics and correlational analysis were used to ensure the correct processing of empirical survey data. We used the Pearson correlation coefficient to test the hypothesis about the significance of the relationship, its depth and tightness, between the sets of signs of the case of the existence of a nonlinear relationship.

The Pearson correlation coefficient was calculated by us based on a paired sample of the values of X and Y. It is taken into account that the Pearson correlation coefficient is a measure of only a linear relationship, and therefore, it is correct only when the appearance of the correlation field indicates the presence of a linear relationship [33].

Using the Pearson correlation coefficient (in the range from -1 to +1), we determined the strength (depth, tightness) of the linear relationship between the values, as well as its direction. Statistical analysis was performed using SPSS Statistics 24.0.0.

Results. Having analyzed and taken into account the current level of research on the identified issues, in our opinion, it is worth taking a broader look at the concept and process of rehabilitation of veterans with disabilities. In our scientific search, we are guided by the fact that the rehabilitation of disabled former combatants is a complex process that is accompanied by numerous obstacles and, therefore, complicated by many factors. Especially if it takes place in the space of a higher education institution and under martial law.

First of all, let's turn to the term “rehabilitation”. According to the definition of the World Health Organization (WHO, 2020) and the Law of Ukraine “On rehabilitation in the field of health care” (2021), it is considered equally as a set of measures needed by a person who experiences or may experience limitations in daily functioning due to state of health or aging in interaction with its environment [13].

In the legislation of Ukraine, a separate terminological definition of “rehabilitation of persons with disabilities” is also used, which is positioned [13] as a system of medical, psychological, pedagogical, physical, professional, labor, physical culture and sports, social and household measures aimed at assisting persons in recovery and compensation for impaired or lost body functions to achieve and maintain social and material independence, labor adaptation and integration into society, as well as providing persons with disabilities with rehabilitation aids and medical products.

However, it should be noted here, as emphasized [24], that “disability” is not a medical term, it is a social phenomenon, not a disease or a sentence. So, let’s take into account that disability is not only a state of health or medical problems, it is a phenomenon that reflects the interaction between the characteristics of a person and the environment in which he is. In this case, such an environment is a higher education institution.

We are impressed by the statement [22] that “veterans with disabilities” are full participants in the educational process who can study and lead an active lifestyle. That is, their disability does not create limitations, does not isolate them from the educational environment, and the presence of health disorders does not prevent disabled veterans from being a full member of the educational process. This social approach is revolutionary, which shows that each person is unique, and disability is determined by the problem of society, not an individual. The basis of this idea [9] is that the social model of disability is considered not from the point of view of a person's physiology (disordered health), which makes him “disabled”, but from the point of view of the barrier nature of the educational process.

Summarizing modern scientific opinion, it was found that the goal of complex rehabilitation of disabled veterans is to obtain an optimal level of work capacity, restoration of social activity, development, and affirmation of personality. Based on the dispositions of a strong connection between physical, social, intellectual, and spiritual development, we will single out the components of complex rehabilitation of veterans with disabilities, which must be implemented in the conditions of a higher education institution.

Physical rehabilitation: after treatment in a hospital, war veterans who have acquired the status of disability face the problem of restoring their functionality [4]. Physical rehabilitation, which integrates a set of measures aimed at restoring the body’s physical functions after an injury, requires a long time and is aimed at restoring the body after the end of the acute period [7; 14].

Physical rehabilitation, implementing a complex of important tasks without which

it is impossible to realize a full recovery, is implemented in institutions of higher education in the process of an academic course of physical education and adaptive sports. Its essence is to use physical activity to integrate students of war veterans with disabilities into a full-fledged active life, which has a significant social significance from this point of view.

We focus on the influence of physical education classes on the motor and mental spheres of students with disabilities, as well as the use of adaptive sports classes as a means of social rehabilitation in the conditions of a higher school. In addition, physical education is an effective tool for students with disabilities in terms of positive impact on quality of life, as well as their functional status. In particular, in the EU and in the developed countries of the world, physical education is considered as a tool for providing students with disabilities a social “exit”, along with improving physical skills [15].

It should be noted that the social dimension of physical education is realized in the availability of physical education resources in institutions of higher education for students with disabilities who are war veterans, because the first thing such students are deprived of as a result of a serious injury is full physical activity.

Psychological rehabilitation: war veterans are persons who return to peaceful life without an adaptation period – after experienced stress, with a “broken” psyche, nightmares and the inability to continue normal life [27]. The acquisition of disability is another factor in the need for psychological rehabilitation, as the physical injuries of war become factors of psychological problems. At the same time, as stated [32], there is no proper psychological rehabilitation of veterans in Ukraine today.

The goal of psychological rehabilitation in the process of obtaining an education is the formation of a psychologically comfortable state. It has been proven [28] that psychological health unites a healthy mind and psyche with a social component, and physical health is impossible without the normalization of the psychological state, which are equally important components of the general health of students. The latter is

ensured by leveling the impact of spontaneous experiences that inevitably occur in view of the war situation. Achieving this is not only helped by psychological means, physical activity is of primary importance in this process. The absence of which is considered to a significant extent [3] as a factor of negative emotions.

Social rehabilitation is aimed at providing opportunities for learning and development, creating conditions for the full realization and physical and mental development of students of the war veterans with disabilities during the educational process.

Ex-military are often shunned and considered aggressive, they are prejudiced in the higher education environment, which is why they often isolate themselves and do not want to communicate with people. On the other hand, the acquired disability greatly complicates their contacts with the environment and limits their participation in student life.

One cannot underestimate the fact that students are a special social group that has its own characteristics. Social rehabilitation requires adaptation to new conditions, makes it possible to feel like a full-fledged person, promotes successful socialization not only in the student group, but also in the university environment in general. Social isolation, lack of activity in the socio-cultural environment and participation in university life have been recognized as one of the barriers on the way to the implementation of the aforementioned [1].

Lviv Polytechnic National University has created appropriate conditions for these purposes. In particular, since 2017, the Service of Access to Learning Opportunities “Without Limits” is operating at the International Center for Professional Partnership “Integration” of the Institute of Humanities and Social Sciences LPNU. The accessibility service supports students with special educational needs in connection with the peculiarities of their health and, accordingly, special educational needs. Among the recipients of support services in the educational process are persons with disabilities, as well as former military personnel, war veterans, and members of their families.

The content of support by specialists of the Accessibility Service for disabled veterans of the Russian-Ukrainian war in the educational environment of the university involves, based on the assessment of the needs of the student, the determination of the resources that must be involved, the conclusion of an individual support plan. Such support is carried out thanks to the involvement of a multidisciplinary team of specialists, the individual support plan and monitoring of implementation are carried out on an ongoing basis in order to ensure that changes in the client’s situation are taken into account, with the aim of making adjustments to ensure the maximum satisfaction of the needs of a student with a disability.

Such support of students with special educational needs in connection with health characteristics, in particular, with disabilities, is essentially social rehabilitation of these students. And at the Lviv Polytechnic, the activity of the service of accessibility to learning opportunities “Without Limits” is a tool for implementing the policy of educational and social inclusion at the University.

In addition, to ensure the construction of an inclusive educational environment for veterans, in 2023, the Center for Veteran Development was opened at the National University Lviv Polytechnic with the support of the Ministry of Veterans Affairs of Ukraine. In May 2024, Lviv Polytechnic also opened an inclusive educational space “Without Limits”, which functions on the basis of the Center for Veteran Development and the International Center for Professional Partnership of the Institute of Humanities and Social Sciences.

The center is equipped with unique inclusive equipment that enables students with visual impairments, musculoskeletal disorders to study in a regular group, alongside students without special educational needs, which ensures the inclusiveness of their education. In particular, the Center has 15 educational places for visually impaired and blind people, 8 educational places for people in wheelchairs and 15 educational places for students without special educational needs. The ability to learn educational materials

for the visually impaired is provided by two video magnifiers, thanks to which the student can adjust the brightness and color of the text, as well as enlarge it according to his needs. In general, the Center can provide places for the study of a group of up to 38 students, in particular with the status of “veteran”, “defender” of Ukraine.

All this illustrates the social component of comprehensive rehabilitation of war veterans with disabilities in the conditions of a higher education institution. In recent decades, special attention in the EU and the world has been paid to the problem of implementing social rehabilitation of persons with disabilities by means of physical rehabilitation in order to improve their health and involve them in socially useful work and provide such persons with equal opportunities with persons without disabilities in classes [29].

The hypothesis of our study was the existence of dependence between the components of complex rehabilitation in the implementation of the rehabilitation process of veterans of the Russian-Ukrainian war with disabilities during the educational process in institutions of higher education.

The purpose of the questionnaire was to establish the relationship in the process of comprehensive rehabilitation of veterans with

disabilities in the conditions of study at a higher education institution and the impact of such rehabilitation on the physical and psychological state of veterans with disabilities and the state of social communication.

First of all, we tried to find out why the respondents preferred the aspect of implementing complex rehabilitation. At the same time, 93.6% of respondents agreed with the thesis that veterans with disabilities can be full participants in the educational process and lead an active life.

Analyzing the received information (Fig. 1), we note that the psychological training category is the least popular (about 6%). The vast majority (49.6%) of respondents prefer recreational physical culture and health activities that ensure restoration of health and working capacity through active recreation using various types of physical activity. At the same time, the respondents agree that such measures prevent social exclusion within the institution of higher education, promote the establishment of contacts, and restore healthy communication. In our research, recreational physical culture and health measures are positioned as means of complex rehabilitation, simultaneously satisfying the requirements of all its components.

Up to 30% preferred measures aimed at

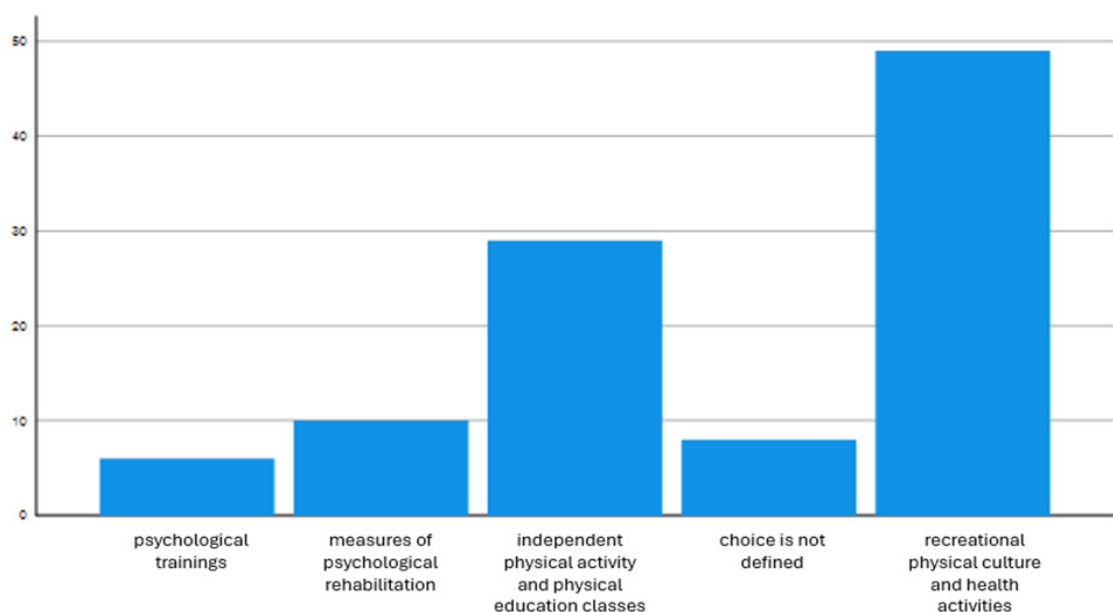


Fig. 1. The results of the selection of complex rehabilitation measures

physical rehabilitation: independent physical activity and physical education classes, classes on types of sports within the educational institution, massage, and hardening procedures.

At the same time, 10% prefer self-regulation skills and tension-relieving techniques, which are used to implement psychological rehabilitation, and physical rehabilitation, such as muscle relaxation exercises, breathing exercises, dance gymnastics, yoga, etc.

8% of respondents are undecided in their choice regarding giving preference to a certain type of activity.

Note that the sample data obtained in our study are limited and largely random in nature. That is why further correlation analysis was used to analyze such data to generalize patterns obtained on the sample and extend them to the entire general population.

First of all, we asked the respondents to evaluate the state of their physical rehabilitation during their stay at the institution of higher education on a five-point scale. The results of the statistical analysis of the given answers are presented in Table 1.

According to the respondents' assessment, the average assessment of the level of implementation of physical rehabilitation is ~4.19. The lowest rating of the respondents

Table 1

Evaluation of the implementation of the level of physical rehabilitation

N	Valid	32
	Missing	0
	Mean	4.1874
	Median	4.2000
	Mode	5.00
	Std. Deviation	.64085
	Variance	.411
	Skewness	-.269
	Std. Error of Skewness	.239
	Kurtosis	-1.065
	Std. Error of Kurtosis	.474
	Minimum	3.00
	Maximum	5.00
Percentiles	25	3.6950
	50	4.2000
	75	4.8200

differs from this number by an average of ~0.64 points. The last CGPA of half of the people in the sample does not exceed 4.2. 25% of the studied sample estimated the level as 4.82. The highest grade of students included in the data set is 5.00. The lowest is 3.00. According to the coefficient of variation, which is equal to 0.153 (15.3%), the lowest score was not the same among the studied units. The distribution of the lowest

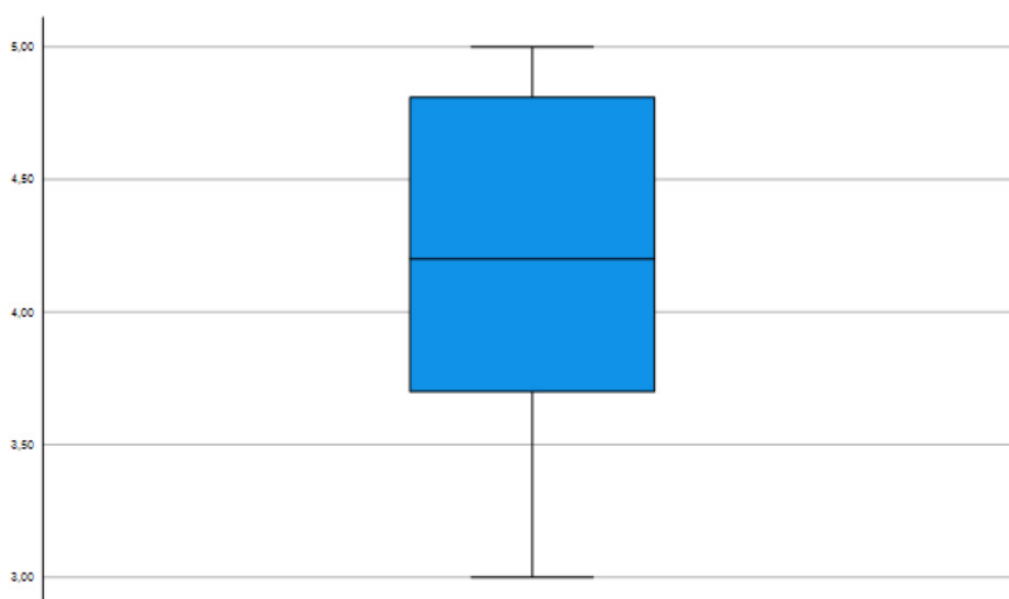


Fig. 2. Boxplot

score is somewhat negatively asymmetric. The distribution of the variable is not similar to the normal distribution because it deviates only slightly from belonging to the range <-1;1>, which is considered the standard of similarity to a normally distributed variable. The majority of the sample rated the level of implementation of physical rehabilitation in the process of studying at a higher education institution quite high.

Changes in psychological state, social communication and level of physical rehabilitation are numerical variables. Therefore, we use the correlation method to analyze the relationship between them and calculate the linear correlation coefficient. A ratio scale is used to measure both variables. As a result, the degree of interrelationship between the components of complex rehabilitation was determined (tables 2, 3).

Based on the results of calculations of asymmetry and excess of social communication indicators (skewness = 0.172 and kurtosis = -0.635) and psychological state (skewness = 0.156 and kurtosis = -0.978), it was concluded that the data have a normal distribution. The variable of the state of physical rehabilitation of the respondents, according to their own opinion, has only a slight deviation from belonging to the range <-1;1>, which is considered the standard for similarity to a normally distributed variable (skewness = -0.269 and kurtosis = -1.065). We used the ratio scale to measure both variables.

The interpretation of the Pearson correlation coefficient obtained as a result of mathematical calculations proved the following. According to the analysis, there is a strong negative linear relationship between the variables. In other words, an increase in the value of the physical rehabilitation variable will lead to a significant decrease in the state of social contacts and the level of psychological well-being, and vice versa. Thus, the research hypothesis is confirmed.

Discussion. One of the most important, most valuable and large-scale changes taking place in modern education is that, according to its goals and purpose, it is becoming open to everyone and specially tuned to everyone [2]. This becomes especially important given the constant increase in the number of students of the war veterans

Table 2

Correlations			
		Changes in psychological state	Physical rehabilitation
Changes in psychological state	Pearson Correlation	1	-.803*
	Sig. (2-tailed)		.043
Physical rehabilitation	Pearson Correlation	-.803*	1
	Sig. (2-tailed)	.043	
*. Correlation is significant at the 0.05 level (2-tailed).			

Table 3

Correlations			
		Changes in social communication	Physical rehabilitation
Changes in social communication	Pearson Correlation	1	-.720**
	Sig. (2-tailed)		<.001
Physical rehabilitation	Pearson Correlation	-.720**	1
	Sig. (2-tailed)	<.001	
* Correlation is significant at the 0,01 (2-tailed).			

who acquired the status of disability as a result of participation in the Russian-Ukrainian war. In this regard, there is an urgent need in Ukraine for the implementation of rehabilitation measures, which are created based on a single concept and are based on the principles of a single approach.

It has been proven [3] that the process of reintegration of students with disabilities depends exclusively on physical, mental, intellectual and sensory impairments, which at the same time play a key role in the process of obtaining education for veterans with disabilities. A comprehensive approach to the process of rehabilitation of war veterans with disabilities during their studies in institutions of higher education, taking into account their needs and characteristics, is based on the organic relationship of its components, according to the information presented in scientific sources [16; 32].

There is an opinion [19] that the vast majority of students with disabilities are carriers of social exclusion, which is reflected in various aspects of their educational process, and therefore, their psychological state. As evidenced by the data [19], students with disabilities have rather

limited opportunities for self-realization, self-affirmation, establishing social contacts in the conditions of a higher school, as the environment is not always ready to perceive them as equals. Our study expands scientific data [3; 5; 6] on the possibilities of rehabilitation of veterans with disabilities in the conditions of a higher school in case of complex application of means that are united by a common goal and tasks of the rehabilitation process.

The conducted scientific research is based on approaches to the implementation of complex rehabilitation of persons with disabilities, which ensure optimization of the physical state while compensating for the insufficiency of social communications and normalizing the psychological state. Thus, we expand scientific data [22; 28] on the comprehensive rehabilitation of war veterans with disabilities in institutions of higher education.

We agree our research with data [9; 10] that physical rehabilitation for veterans with disabilities contributes to the acquisition of independence, formation, expansion and strengthening of their social contacts in the environment of higher education. In scientific studies [12; 16], physical culture is positioned as a means of self-knowledge, self-esteem improvement, physical condition improvement, which is important for the process of complex rehabilitation. The basis for this, as proven [30], should be a problem-oriented approach, in which the cause of motor dysfunction, factors of psychological imbalance, and problems in the social aspect are determined.

We support scientific approaches [3; 7; 10] that physical rehabilitation in the conditions of a higher school is a tool for providing veterans with disabilities with a social “exit”, improving physical skills and a means of health preservation. Given that veterans with disabilities are limited in social life, recreational physical activity has attracted considerable academic interest, especially in the aspect of developmental potential in the context of physical and social rehabilitation.

Based on the information [23] that physical rehabilitation is an important stage of recovery, as a result of which a person returns to the

physical form lost as a result of an injury, but which is characterized by a complex therapeutic effect, we join the opinion that returning to an active life and improving the quality of life of student veterans. The Russian-Ukrainian war with disabilities requires a comprehensive approach, and the main thing is their active participation in the process. Advanced foreign experience convinces us that physical education in institutions of higher education is not the prerogative of only healthy students and that persons even with such severe disabilities as blindness, damage to the spine and spinal cord, cerebral palsy, etc. can be active participants in this process [3; 6].

The obtained research results expand the data [11; 16] regarding the need for regular physical activity, which is positioned as one of the most effective ways to combat stress and a means of social interaction. However, it is consistent with empirical data [12] that improving the physical condition of persons with disabilities, and, therefore, somatic health, is accompanied by an improvement in well-being, which to a certain extent eliminates their physical limitations.

Since research on the complex rehabilitation of students of veterans of the Russian-Ukrainian war with disabilities in institutions of higher education has not yet been conducted, our study for the first time presented empirical data, based on which it is possible to carry out further scientific research in this field of knowledge.

Today, many different educational projects and innovations are being implemented in Ukraine, which aim to provide disabled veterans of the Russian-Ukrainian war with a good and high-quality education. The leading mission of the higher school in this process is to create conditions that contribute to the effective education of such students as a process of education of the intellectual elite of society. At the same time, the changes currently taking place in higher education, and especially since the full-scale invasion of Russia on the territory of Ukraine, are manifested in increased attention to the problems of complex rehabilitation of veterans with disabilities in the process of obtaining an education.

The theoretical foundations of the organization of complex rehabilitation in the academic environment of a higher education institution are considered, in particular through the prism of their organic relationship and interdependence. It was determined that the basis of effective comprehensive rehabilitation of disabled veterans is a multidisciplinary approach that combines physical, psychological and social rehabilitation measures, which are implemented in an organic relationship and integrated into each other.

It has been investigated that disabled Russian-Ukrainian war veteran students rate the current level of physical rehabilitation while studying at a higher education institution quite highly. According to the obtained data, the existence of an organic interrelationship in the implementation of physical, psychological and social rehabilitation of student veterans with disabilities was established, which proves the need for their comprehensive application to effectively achieve the goal of the rehabilitation process.

Despite the wide distribution of the problem of rehabilitation of veterans with disabilities in Ukraine, there are still many unresolved points regarding this process in the conditions of higher education. Today, there is a need for the purposeful formation of a new system of complex multidisciplinary rehabilitation in institutions of higher education, which would ensure the restoration of lost functions, while normalizing the psychological state and promoting socialization in the higher education environment of veteran students with disabilities. At the same time, the positive experience accumulated in Ukraine is the basis for the further development of the system of complex rehabilitation following European and world standards of veteran students with disabilities, the implementation of which will allow the formation of a system of complex rehabilitation adapted to new realities.

References

1. Barmak S.A., Barmaksezian N., Der-Martirosian C. (2021). Student veterans in higher education: The critical role of veterans resource centers. *Journal of American College Health*. No. 71(8), 2406–2416.

2. Blavt O., Bodnar A., Mykhalskyi A., Gurtova T., Tsovk L. (2023). Application of Electronic Means in Endurance Coordination Testing of Students with Disabilities Who are War Veterans. *Education Theory and Methodology*. No. 23(3), 397–403. <https://doi.org/10.17309/tmfv.2023.3.12>.

3. Brittain I., Green S. (2012). Disability sport is going back to its roots: rehabilitation of military personnel receiving sudden traumatic disabilities in the twenty-first century. *Qualitative Research in Sport, Exercise and Health*. No. 4(2), 244–264. <https://doi.org/10.1080/2159676X.2012.685100>.

4. Canlas B.R., Dawson T.C., Hollrah L.N., McGranaghan P., Hedt S., Rinehart K.J. (2017). Restoring Function in Veterans With Complex Chronic Pain. *Fed Pract*. No. 34(10), 42–47.

5. Challenges and needs of Ukrainian universities report from the first civica – Ukraine high level meeting. (2023). Retrieved from: C4U__Report_Challenges_and_needs_of_Ukrainian_institutions_report_final.pdf.

6. Elnitsky C.A., Blevins C., Findlow J.W., Alverio T., Wiese D. (2018). Student Veterans Reintegrating From the Military to the University With Traumatic Injuries: How Does Service Use Relate to Health Status? *Archives of Physical Medicine and Rehabilitation*. No. 99, Is. 2, S58–S64. <https://doi.org/10.1016/j.apmr.2017.10.008>.

7. Fadeeva A., Tiwari A., Mann E., Kiernan M.D. (2022). A protocol for developing a complex needs indicator for veterans (CNIV) in the UK. *Public Health in Practice*. No. 4, 100281. <https://doi.org/10.1016/j.puhip.2022.100281>.

8. Fulk G.D., Chui K. (2024). O’Sullivan & Schmitz’s Physical Rehabilitation. 8th Edition. Philadelphia: FA Davis Co.

9. Ghosh A., Santana M.C., Opelt B. (2019). Veterans’ Reintegration into Higher Education: A Scoping Review and Recommendations. *Journal of Student Affairs Research and Practice*. No. 57(4), 386–402. <https://doi.org/10.1080/19496591.2019.1662796>.

10. Hunter-Johnson Y., Liu T., Murray K., Niu Y., Suprise M. (2020). Higher Education as a Tool for Veterans in Transition: Battling the Challenges. *The Journal of Continuing Higher Education*. No. 69(1), 1–18. <https://doi.org/10.1080/07377363.2020.1743621>.

11. Isaacson B.M., Hendershot B.D., Messinger S.D., Wilken J.M., Rábago C.A., Esposito E.R., Wolf E., Pruziner A.L., Dearth C.L., Wyatt M., Cohen S.P., Tsao J.W., Pasquina P.F. (2016). The Center for Rehabilitation Sciences Research: Advancing the Rehabilitative Care for Service Members With Complex Trauma. *Military Medicine*. No. 181(4), 20–25. <https://doi.org/10.7205/MILMED-D-15-00548>.

12. Klos L., Blavt O., Makukh O., Yatsyshyn U., Kovalchuk O., Zimlich M. (2023). Needs and possibilities of social work in implementing social inclusion with the tools of adaptive physical activity. *Polski Merkurusz Lekarski*. Vol. LI, Is. 5, 504–511. <https://doi.org/0.36740/Merkur202305109>.
13. Klos L. (2023). Support for the rehabilitation of war veterans and their family members: study guide. Lviv: Publisher T.V. Marchenko [in Ukrainian].
14. Kisner C., Colby L.A. (2013). *Therapeutic Exercise: Foundations and Techniques*. 6th edition. Philadelphia: FA Davis Co.
15. Kuntjoro B.F.T., Soegiyanto S., Setijono H., & Suhianto S. (2022). Inclusion of students with disability in physical education: analysis of trends and best practices. *AJPESH*, 2(2), 88–94.
16. Logvynenko I.O., Nesterchuk N.E. (2021). Physical therapy of military servants, participants of combat actions who directly participated in the operation of the united forces. *Rehabilitation and Recreation*. No. 8, 34–39. Retrieved from: <https://health.nuwm.edu.ua/index.php/rehabilitation/article/view/142>.
17. Ladyniak A.B., Chubinska N.B., Chervinska O.S. (2024). Control of the rehabilitation process of higher education students with disabilities due to brain injuries by computer engineering tools. *Rehabilitation & Recreation*. Vol. 18, No. 1, 18–29. <https://doi.org/10.32782/2522-1795.2024.18.2>.
18. Makarenko S. (2018). Social and psychological rehabilitation of combat participants. *Psychological journal*. No. 13, 86–95. <https://doi.org/10.31108/2018vol13iss3pp86-95>.
19. Mahoney M.A., Rings J.A., Softas-Nall B.C., Alverio T., Hall D.M. (2021). Homecoming and College Transition Narratives of Student Military Veterans. *Journal of College Student Psychotherapy*. No. 37(2), 173–195. <https://doi.org/10.1080/87568225.2021.1926034>.
20. McGill G., Wilson G., Caddick N., Forster N., Kiernan M.D. (2020). Rehabilitation and transition in military veterans after limb-loss. *Disability and Rehabilitation*. No. 43(23), 3315–3322. <https://doi.org/10.1080/09638288.2020.1734875>.
21. Ministry of Affairs veterans of Ukraine. Retrieved from: <https://mva.gov.ua/>.
22. Nguyen M.V., Dawn H.E., Anjali T.R. (2023). Return to school among service members and veterans after traumatic brain injury: a scoping review. *Journal of the International Society of Physical and Rehabilitation Medicine*. No. 6(2), 40–46. <https://doi.org/10.1097/ph9.000000000000008>.
23. O’Sullivan S.B., Schmitz T.J., Fulk G.D. (2019). *Physical rehabilitation*. 7th edition. Philadelphia: FA Davis Co.
24. Page A., Anderson J., Charteris J. (2021). Including students with disabilities in innovative learning environments: a model for inclusive practices. *International Journal of Inclusive Education*. 3. <https://doi.org/10.1080/13603116.2021.1916105>.
25. Shvets A.V., Horishna O.V., Kikh A.Y., Ivantsova G.V., Horshkov O.O., Richka O.V. (2021). Peculiarities of the organization of psychomedical rehabilitation of military personnel in NATO and Partnership for Peace countries. *Ukrainian Military Medical Journal*. No. 2 (4), 26–39. [https://doi.org/10.46847/ujmm.2021.4\(2\)-026](https://doi.org/10.46847/ujmm.2021.4(2)-026).
26. The social reintegration of veterans in Ukraine: Final analytical report. Retrieved from: veterans-social_reintegration_eng.pdf 1.
27. Vox Ukraine: analytics about Ukraine. Retrieved from: <https://voxukraine.org/>.
28. War in Ukraine: Reshaping the Higher Education Sector. Analytical Report / Ye. Nikolaiev, G. Riy, I. Shemelynets. Kyiv: Borys Grinchenko Kyiv University, 2023.
29. Warren N., Manderson L. (2013). *Reframing Disability and Quality of Life*. Springer Dordrecht.
30. Winkler S.L., Finch D., Llanos I., Delikat J., Marszalek J., Rice C., Rakoczy C., Wang X., Pollard K., Cockerham G.C. (2023). Retrospective Analysis of Vision Rehabilitation for Veterans With Traumatic Brain Injury–Related Vision Dysfunction. *Military Medicine*. No. 188, Is. 9–10, e2982–e2986. <https://doi.org/10.1093/milmed/usad120>.
31. Yazicioğlu K., Duyan V., Karataş K., Özgül A., Yılmaz B., Duyan G.Ç., Aksu S. (2006). Effects of Sociodemographic Characteristics, Illness Process, and Social Support on the Levels of Perceived Quality of Life in Veterans. *Military Medicine*. No. 171(11), 1083–1088. <https://doi.org/10.7205/MILMED.171.11.1083>.
32. Zabolotna I. Gushcha S., Balashova I. & Bezverhnyuk T. (2023). Problem issues of medical and psychological rehabilitation of military servicemen in Ukraine. *Bulletin of Problems Biology and Medicine*. 1. 64. <https://doi.org/10.29254/2077-4214-2023-2-169-64-74>.
33. Retrieved from: https://www.wikidata.org/wiki/Pearson's_correlation_coefficient.

Прийнято: 10.09.2024

Опубліковано: 31.10.2024

Accepted on: 10.09.2024

Published on: 31.10.2024