

Dynamics of the Efficiency of Providing Multidisciplinary Rehabilitation Assistance to Victims with Spine Injuries

Динаміка ефективності надання мультидисциплінарної реабілітаційної допомоги потерпілим із ушкодженнями хребта

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ABSTRACT

The degree of damage to spine is now a threat to health and optimal functioning of the human body in the post-traumatic period. Taking into account the

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peculiarities of the mechanism of psychogenic disorders in the conditions of the full-scale Russian invasion contributes to the specialist's readiness for stress and conflict situations during the rehabilitation period of work with the victims.

The purpose of the article is to substantiate the dynamics of the effectiveness of providing multidisciplinary rehabilitation care to victims with spinal cord injuries. Psychocorrection should contain a list of training exercises aimed at the development of self-awareness, improvement of psychological culture, improvement of reflective personality characteristics, self-actualization and will involve mastering the skills of voluntary psychophysical self-regulation of the state.

Research methods. Among psychodiagnostic methods, the following were used: the questionnaire «Change in the quality of life due to the disease», the method of determining the intensity of the pain syndrome according to the visual analog pain scale (VAS) and the Minnesota Multi-Profile Personality Questionnaire (MMPI-2) to assess the psychological status of the individual. The characteristics of motor activity were determined according to the dynamics of Hauser's gait index, which determines the mobility of the victim and his ability to move freely and the need for auxiliary means of support.

Research results. In subjects with spinal cord injury during hospitalization and psychocorrection changes in the gait state according to the Hauser index (muscle strength) were improved from 3.18 ± 0.13 points on average for the group to 4.9 ± 0.63 after the injury. This indicates that after 10-12 months' treatment all subjects moved without the help of other attendants, some of whom were completely independent, within and outside the home to overcome thresholds and low curbs. Motor activity and gait were improved; there was a noticeable decrease in the intensity of pain, anxiety and depression.

Key words: victims, spinal cord injury, state of optimal functioning of the human body, psychocorrection and restorative therapy, rehabilitation.

Introduction

In the context of a sharp increase in mental and behavioral disorders caused by the prolonged Russian invasion and other challenges to society, we have witnessed that the system of providing appropriate assistance and departmental psychological services have proven to be, at least in the early stages, in need of revision of established models of assessment and intervention. One of the peculiarities of the rehabilitation process for Ukrainian victims is the presence of invisible brain damage and contu-

sions that the wounded or traumatized witnesses sustained as a result of psychological trauma or bodily injuries, which can affect their emotional state, behavior, and other areas of life. This can complicate the rehabilitation process, which highlights the need for a specialized approach to mental recovery, including the use of neuro-personological and neuro-psychological interventions. For example, a victim with a spinal cord injury usually has not one, but several complications, including impaired respiratory and cardiovascular systems, coordination of movements or the gastrointestinal tract, etc. That is why they need comprehensive rehabilitation care for all the complaints they have, not just spinal injuries. Accordingly, this problem already requires interdisciplinary and intersectoral cooperation of specialists and services to provide assistance (Vizniuk, Teslenko, Martyniuk, Savinova, Biliuk, Kyslychenko, & Stelmakh, 2022).

The psychosomatic health of a person reflects the fact of harmonious involvement, the inclusion of a person in the socio-cultural reality, and allows maintaining psychological balance and adherence to life prospects. The works of O. Ananiev, I. Arshava, I. Vizniuk, O. Kokun, H. Lozhkin, S. Maksymenko, H. Mozgova and others note that preserving the psychosomatic health of the individual is an urgent problem, the solution of which means achieving harmonious development by the individual, maintaining an optimal psychofunctional state in the realization of their own creative search and professional achievements.

The purpose of the article. *The purpose of the article* is to substantiate the dynamics of the effectiveness of providing multidisciplinary rehabilitation care to victims with spinal cord injuries. *The task of the study* is to determine the most effective restorative measures of medical and psychological rehabilitation for military personnel of working age with psychogenic disorders in terms of early implementation and effectiveness of the psychocorrection program, taking into account the differentiation of their psychopathological mechanisms of occurrence.

The tasks of the article. Currently, about 1500-2000 cases of spinal cord injuries are registered in Ukraine per year. However, despite the low percentage of recovery functions of such patients, their number is constantly growing in the context of military operations. According to the WHO, the number of such patients, especially those with concomitant spinal cord injuries, is up to 33 people per 100 thousand people, including 77% of men of working age, whose peak injury rate is recorded at 29-39 years. There are no accurate figures on the number of such victims in Ukraine yet (Tsekhmister, Vizniuk, Humeniuk, Yefremova, & Dolynnyi, 2022).

The degree of back injury is a threat to health and the optimal functioning of the human body in the post-traumatic period. Further rehabilitation after a spinal injury depends on the extent of the affected area and its dysfunctions. The higher the injury area is, the more dangerous such an injury is for the victim's body. Negative consequences include disability, which is mainly caused by such symptoms as (Мозгова, & Візнюк, 2021):

- presence of pain syndrome;
- moderate swelling at the site of injury;
- numbness (complete or partial loss of sensation) in areas localized below the injury;
- disorders or tremors in the muscles of the lower and upper extremities during movements, muscle stiffness;
- dysfunction of the organs of the groin area, etc.

Taking into account the peculiarities of the mechanism of psychogenic disorders in the context of a full-scale Russian invasion contributes to the readiness of a specialist to stress and conflict situations during the rehabilitation period of work with victims. Psychocorrection should include a list of training exercises aimed at developing self-knowledge, improving psychological culture, improving reflective personality characteristics, self-actualization, and involve mastering the skills of voluntary psychophysical self-regulation of the state (Vizniuk, Teslenko, Martyniuk, Savinova, Biliuk, Kyslychenko, & Stelmakh, 2022).

The criterion for the success of psychocorrection and rehabilitation therapy is the regression of neurological symptoms in case of disabling injuries and the restoration of sensory and motor functions, which usually takes a long time. Sometimes the victim is left with limited dysfunctions forever, but they often gradually return to active living conditions with appropriate psychosocial care and rehabilitation (Візнюк, 2020).

There aren't still unified methodological approaches to the recovery of spinal cord and spinal cord injuries, but despite the impressive prospects of modern surgical care, the consequences of psychotrauma are the problem of neurological deficits and dependence on others. These can only be compensated for with individual psychocorrective influence on the recovery processes of the psyche and correction of anxiety, emotional state and depression (Vizniuk, Dzekan, Dolynnyi, Fomin, Fomina, & Ordatii, 2022).

We consider the concept of rehabilitation proposed by WHO experts to be the system of psycho-corrective measures aimed at the fullest possible restoration of the victim's psychophysiological and social status in order to integrate him/her actively into society and achieve possible independence in the psychosocial space. One of the priorities of the European Action Plan for the Safety and Protection of Mental Health of such victims is the introduction of integrated, comprehensive, effective systems for ensuring and restoring mental health, according to which such prerogatives as health promotion and restoration, prevention and treatment, appropriate rehabilitation and care for the victim should be mandatory (Vizniuk, Rokosovyk, Vytrykhovska, Paslawska, Bielikova, & Radziievska, 2022).

Medical and psychological assistance is conditioned by the impact on the personality of a serviceman in the context of restoring his communicative abilities and self-esteem, the need for professional self-realization and compensatory mechanisms of protection and social support in the family, in the team or other social groups. One of the tasks of medical and psychological in-

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terventions is to eliminate traumatic symptoms (neurosis-like and neurotic) as soon as possible, overcome hypochondriacal fixations, etc. Psychotherapeutic and psychocorrectional methods are aimed at increasing resistance to adverse psychogenic factors that affect the system of personal relationships, reduce the development of vegetative and somatic disorders, increase the victim's active position in terms of life support, overcoming the disease, and the importance of his or her role in the process of receiving assistance (Vizniuk, Teslenko, Martyniuk, Savinova, Biliuk, Kyslychenk, & Stelmakh, 2022).

We consider *rehabilitation of servicemen* as a system of state socio-economic, professional, medical, pedagogical, psychological and other measures to prevent temporary or complete disability of victims and their early return to society and socially useful work. In the context of rehabilitation activities and psychosocial assistance, it is worth using the following programs for the effectiveness of providing multidisciplinary rehabilitation care to victims with spinal cord injuries (Trudel-Fitzgerald, Millstein, von Hippel, Howe, Tomasso, Wagner, & VanderWeele, 2019):

1. A set of rehabilitation, *health-improving and therapeutic and preventive medical and psychological measures* aimed at restoring and preserving mental and psychophysiological functions, social activity and optimal performance of servicemen who suffered during the performance of duties and extreme psychogenic effects in the areas of combat operations. Medical and psychological rehabilitation is aimed at maintaining their psychosomatic health, reducing the frequency of the consequences of combat trauma in the context of post-traumatic stress disorders and has preventive, functional, clinical and psychological forms.

2. *Preventive rehabilitation*, which is conditioned by psychological and medical service to restore the reserves of psychosomatic health of servicemen whose psychosomatic status is without psychological deviations and signs of disease, to the indicators of the normative level of their well-being and vital activity, without the use of medicines.

3. *Clinical rehabilitation of servicemen*, which is conditioned by the complex of medical, diagnostic and preventive measures for early diagnosis, treatment and restoration of physiological functions of the victims, with the identification of their compensatory capabilities, prevention of complications, elimination of the psychopathological process and counteraction to disability, active independent living, preparation for social interaction, domestic and workloads, etc.

4. *Functional rehabilitation of servicemen*, which is based on the use of physical exercises and therapeutic gymnastics for the purpose of therapeutic and preventive treatment with the aim of an integrated approach to restoring health in terms of the optimal state of body functioning and performance of the victims. The physical rehabilitation program for patients with spinal cord injuries included the following techniques: massage; passive mechanical therapy; physical therapy; kinesitherapy and other techniques to restore the affected spine, muscle strength and mobility.

5. *Psychological rehabilitation of servicemen* (Table 1), which is based on the complex of general rehabilitation process in hospitalization and is aimed at restoring impaired mental functions, social activity, optimal performance, correction of social status and self-esteem of people with mental disorders and combat trauma. The success of psychological rehabilitation is determined individually in accordance with the realistic phased plan of psycho-correctional measures, taking into account all areas of rehabilitation.

6. *Social rehabilitation of servicemen*, which is focused on the restoration of rights and duties, social status, professional capacity and health, aimed at the resilience of a person in the social environment, as well as the environment itself in terms of adaptation to spinal disorders in order to ensure socialization of the individual, moral and psychological balance, legal status and self-confidence.

7. *Professional rehabilitation of servicemen*, which consists in professional orientation of the individual to professional sup-

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port, education and growth, professional and industrial employment and adaptation in the conditions of post-traumatic growth.

A servicemen may refuse any planned element of the individual rehabilitation program that does not meet his or her individual needs, as well as request a review or appeal of the decision of responsible officials in the field of rehabilitation and the relevant principles of rehabilitation assistance (Table 1). A serviceman must be guaranteed the confidentiality of personal information, the possibility of protecting his rights and legitimate interests, including in court, as well as other rights provided for by the legislation of Ukraine (Order of 09.12.2015 No. 702).

Table 1

**Basic principles of psychological rehabilitation
of military personnel**

№	Characteristic
1	2
1	timely start, which ensures the achievement of the goal of psychological rehabilitation of servicemen;
2	complexity;
3	continuous, step-by-step and consistent application of psychological rehabilitation measures for servicemen in a certain sequence, depending on the nature of the mental disorder and real possibilities;
4	partnership, which involves the involvement of servicemen and women in the active participation in the recovery process;
5	individualization of the program of psychological rehabilitation of servicemen, i.e. application of methods and means depending on the origin and peculiarities of deviations (disorders), as well as gender, age, individual personality traits of servicemen, their general physical condition, etc;
6	unity of methods of influence;
7	collective implementation of psychological rehabilitation of servicemen (in a military unit), which is morally easier for servicemen and increases its effectiveness

Research methods and techniques

We examined 73 respondents in the dynamics, with spinal injuries at the level of the cervical (C6-C8) and lumbar (L1-L4) spine without spinal cord injury, average age 34.63 ± 3.53 years. The experimental base of the study was the LLC «Spine Rehabilitation Center - ACCIS», Vinnytsia, and the Municipal Non-Commercial Enterprise «Zhmerynka Hospital of Rehabilitation Treatment of Vinnytsia Regional Council», Zhmerynka, where the general sample of people was composed of respondents with lumbar spine injuries. The sample of subjects included people with spinal cord injury at the level of vertebral integrity damage, which provokes instability of the interrelationships of the spinal cord and peripheral nerves without damage to the nervous system. Signs of injury were detected by magnetic resonance imaging by such indicators as the localization of the injury: respondents experiencing pain at the level of injury amounted to $n=48$ people, and those with pain below the level of injury – $n=25$ people.

All respondents agreed to participate in the study. The following psychodiagnostic methods were used: the Questionnaire «Change in Quality of Life Due to Illness», the method of determining the intensity of pain syndrome using the Visual Analog Pain Scale (VAS), and the Minnesota Multidisciplinary Personality Inventory (MMPI-2) to assess the psychological status of the individual.

Assessment of the dynamics of the subjects' condition was carried out according to the complex treatment by the test method of determining the motor activity of muscle strength and motor function according to the outpatient index proposed by R. Waters, according to which the ability to motor reproduction (upper extremities (shoulder, forearm, hand) and lower extremities (abductors, hip and leg flexors and extensors)) is assessed on a 4-point scale:

0 - plegia (a disorder of voluntary movements due to impaired muscle innervation);

1 - moderate paralysis (complete absence of voluntary muscle movements);

2 - severe paresis (decrease in muscle strength due to restriction of the range and possibility of voluntary movements);

3 - mild paresis or normal (tremor, limb numbness).

Results and discussions

In the context of the study, we used the questionnaire «*Changes in the quality of life due to the disease*» to determine life-creating qualitative changes in servicemen with spinal cord injuries at the level of the cervical and lumbar spine to assess the function of the upper and lower extremities, modified by us. It was used to diagnose their adaptation to the conditions of further life and to identify the features of psychotrauma, as well as to characterize their mobility to assess the person's dependence on others, which helped to specify the range of sensitivity of the questionnaire. The subjects were examined before hospitalization and after 40-50 days, the dynamics of the severity of the condition and changes in quality of life were carried out after 1 year.

The characterization of motor activity was determined according to the dynamics of the Hauser gait index, which determines the mobility of the victim and his ability to move freely and the need for auxiliary support devices.

According to the results of diagnostic measurements, psychocorrection of the psychological state and hospitalization of victims were carried out, as a result of which the strength of the muscles of the upper and lower extremities increased, depending on the condition of the subjects for each of the signs (Table 2). Physical therapy techniques were used in the following areas: kinesiotherapy, manual therapy, Redcord therapy, shock wave therapy, taping, ergon therapy, and DNS therapy. Thus, in patients with spinal cord injury, spinal cord conduction according to the functions of the upper extremities was increased by $1.2 \pm 0.14\%$ ($p > 0.05$) from the initial 5.42 ± 0.78 to 6.62 ± 0.92

points. In patients with upper limb dysfunction in the dynamics – by $14.82 \pm 1.11\%$ (from 12.34 ± 0.52 to 17.3 ± 1.63 points, $p < 0.05$). Accordingly, in relation to the initial level of spinal cord injury, lower limb dysfunction increased by $4.73 \pm 0.44\%$ ($p > 0.05$) from the initial 4.23 ± 0.18 to 5.22 ± 0.62 points. In patients with lower extremity dysfunction in the dynamics – by $16.49 \pm 1.08\%$ (from 14.43 ± 0.42 to 18.54 ± 1.73 points, $p < 0.05$).

Table 2

Dynamics of muscle strength of the upper and lower extremities of subjects with spinal cord injury at the level of the lumbar spine

	<i>Muscle strength, in points ($p < 0.05$)</i>			
	Upper limbs		Lower limbs	
	Before	After	Before	After
<i>Total muscle strength</i>				
	psychocorrections		psychocorrections	
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Upper limbs (shoulder, forearm, hands)</i>	5.42 ± 0.78	6.62 ± 0.92	12.34 ± 0.52	17.3 ± 1.63
<i>Lower limbs (abductor muscles, flexors and extensors of the hip and lower leg)</i>	4.23 ± 0.18	5.22 ± 0.62	14.43 ± 0.42	18.54 ± 1.73

Thus, in the subjects with spinal cord injury during hospitalization and psychocorrection, changes in the state of gait according to the Hauser index (muscle strength) improved in the dynamics from 3.18 ± 0.13 points on average in the group to 4.9 ± 0.63 after the injury. This indicates that after 10-12 months of treatment, all the subjects moved without the help of other attendants, some of whom were able to walk completely independently, within and outside the home to overcome thresholds and low curbs.

As a result of treatment, the intensity of pain in the subjects on the VAS scale decreased significantly from 4.25 ± 1.37

to 1.24 ± 0.92 points with its localization at the level of injury ($n=48$) and from 4.53 ± 1.32 to 2.17 ± 1.73 points with pain below the level of injury ($n=25$) (Table 3). In victims who complained of pain in the area of injury, the decrease was much more significant, due to the presence of nociceptive pain (an important function of the body's defense), which disappeared or decreased after the wounds of the damaged tissues healed. In people with neuropathic pain (nervous system dysfunction), pain was localized below the level of injury, which was also due to a decrease in pain intensity, but with a less noticeable difference.

Table 3

**Dynamics of pain syndrome intensity
in subjects with spinal cord injury**

Localization of pain	Initial level	Рівень болю, ($p < 0.05$)		
		Average	The most intense	The least intense
1	2	3	4	5
<i>Pain at the level of injury</i> ($n=48$)	4.25 ± 1.37	3.43 ± 1.32	5.43 ± 1.56	1.24 ± 0.92
<i>Pain below the level of injury</i> ($n=25$)	4.53 ± 1.32	2.53 ± 1.47	4.63 ± 1.37	2.17 ± 1.73

According to the MMRI-2 methodology, the level of anxiety and depression in the subjects decreased from 14.38 ± 3.45 to 10.69 ± 2 , which is associated with the dynamics of changes in people with spinal cord injury at the level of damage to the integrity of the vertebrae, due to a more pronounced improvement in movement with almost the same frequency and intensity of pain. Aggressiveness in relation to this technique is manifested at a low level in 2%, at an average level in 62%, and at a high level in 36% of respondents. A high score on the Neurotic Control scale was found in 69% of the subjects, and almost all respondents (95%) demonstrated an average level on the Neuroticism scale. Accordingly, the problems of psychological exhaustion are related to the body (back pain often causes headaches, etc.),

which bother 27% (n=48) and 23% (n=25) of respondents at a high level.

The quality of life in the dynamics of treated respondents improved due to a decrease in the integral indicator of changes in vital activity due to spinal cord injury by 7.98 ± 2.1 points (19%, from 37.25 ± 1.67 to 29.27 ± 1.71) during the year. Compliance with the quality of life was due to a decrease in pain intensity, increased self-care capabilities, and a decrease in the frequency of anxiety and depression. The problems of the subjects related to social activity show the lack of significant dynamics in improving health indicators. Due to qualitative changes in the dynamics during the year in the subjects with spinal cord injuries without spinal cord conduction disorders, the level of changes was significantly lower in people with motor dysfunction of the lower extremities (8.75 ± 1.53 points) than motor activity of the upper extremities (12.00 ± 2.28 points), respectively, $p < 0.05$. The structure of these changes is due to the effectiveness of the proposed rehabilitation measures, resulting in a significantly lower level of pain, anxiety and depression and a significantly higher level of changes in vital activity, which is associated with the social need for communication. The difference in the ability to engage in social activities is due to the duration of the traumatic condition, the possibility of rehabilitation treatment and psychocorrection.

Conclusions

Thus, according to the results of the use of complex rehabilitation treatment in subjects with spinal cord injury at the level of the cervical (C6-C8) and lumbar (L1-L4) spine without spinal cord injury, the quality of life statistically improved, which indicates a decrease in the integral index according to the change in quality of life by 7.98 ± 2.1 points as a result of injury; motor activity (increased muscle strength in the upper and lower extremities) and gait improved; there was a marked decrease in pain intensity, anxiety and depression.

Prospects for further research are to substantiate the socio-psychological factors determining the psychological health of respondents with varying degrees of spinal cord injury.

Literature

- Візнюк І.М. Соціально-психологічні особливості адаптації особистості в аспекті збереження здоров'я. *Теоретичні і прикладні проблеми психології* : зб. наук. праць Східноукраїнського національного університету ім. В. Даля. Северодонецьк : Вид-во СНУ ім. В. Даля, 2020. № 3 (53). Т. 3. С. 19–30.
- Коқун О.М., Агаєв Н.А., Пішко І.О., Лозінська Н.С. Основи психологічної допомоги військовослужбовцям в умовах бойових дій. Київ : НДЦ ГП ЗСУ, 2015. 170 с. URL: <https://core.ac.uk/download/pdf/84274034.pdf>.
- Лазос Г.П. Резильєнтність: концептуалізація понять, огляд сучасних досліджень. Психологічна допомога постраждалим внаслідок кризових травматичних подій: методичний посібник. Київ : ТОВ «Видавництво «Логос», 2015. С. 26–64.
- Мозгова Г.П., Візнюк І.М. Психологічна реабілітація психосоматичних хворих працездатного віку. *Науковий часопис Національного педагогічного університету імені М.П. Драгоманова*. Серія 12. Психологічні науки. Вип. 16 (61), 2021. С. 62–73. URL: [https://doi.org/10.31392/NPU-nc.series12.2021.16\(61\).06](https://doi.org/10.31392/NPU-nc.series12.2021.16(61).06).
- Наказ від 09.12.2015 № 702 «Про затвердження Положення про психологічну реабілітацію військовослужбовців Збройних Сил України, які брали участь в антитерористичній операції, під час відновлення боєздатності військових частин (підрозділів)». URL: <http://surl.li/pjkla>.
- Наказ Міністерства охорони здоров'я України 09 березня 2022 року № 441 «Порядок надання домедичної допомоги постраждалим при підозрі на пошкодження хребта». URL: <http://surl.li/pjkko>.
- Kim Y. J., Cho J. H. Correlation between Preventive Health Behaviors and Psycho-Social Health Based on the Leisure Activities of South Koreans in the COVID-19 Crisis. *International Journal of Environmental Research and Public Health*, 2020. Vol. 17, No 11. P. 4066. DOI: 10.3390/ijerph17114066.
- Kuchai O., Yakovenko S., Zorochkina T., Okolnychyа T., Demchenko I., Kuchai T. Problems of Distance Learning in Specialists Training in Modern Terms of the Informative Society During COVID-19. *IJCSNS International Journal of Computer Science and Network Security*.

2021. Vol. 21, No 12. P. 143–148. URL: <https://doi.org/10.22937/IJCSNS.2021.21.12.21>
- Takahashi T., Kawashima I., Nitta Y., Kumano H. Dispositional mindfulness mediates the relationship between sensory-processing sensitivity and trait anxiety, well-being, and psychosomatic symptoms. *Psychological reports*. 2020. Vol. 123, No 4. P. 1083–1098. DOI: [10.1177/0033294119841848](https://doi.org/10.1177/0033294119841848).
- Trudel-Fitzgerald C., Millstein R. A., von Hippel C., Howe C. J., Tomasso L. P., Wagner G. R., VanderWeele T. J. Psychological well-being as part of the public health debate? Insight into dimensions, interventions, and policy. *BMC public health*. 2019. Vol. 19, No 1. P. 1–11. DOI: [10.1186/s12889-019-8029-x](https://doi.org/10.1186/s12889-019-8029-x).
- Tsekhmister Y., Vizniuk I., Humeniuk V., Yefremova O., Dolyunnyi S. Modern changes in the model of professional and pedagogical training of medicines in the context of European integration processes. *International Journal of Health Sciences*, 2022. Vol. 6, No 2. P. 972–986. DOI: <https://doi.org/10.53730/ijhs.v6n2.9440>.
- Vizniuk I., Bilan L., Tsokur O., Rozheliuk I., Podkovyroff N., Symonenko T. Psychosomatic Health as a Factor of Human Social Adaptation in Postmodern Society. *Postmodern Openings*, 2021. Vol. 12, No 1. P. 54–73. URL: <http://surl.li/pjklq>.
- Vizniuk I., Teslenko V., Martyniuk I., Savinova N., Biliuk O., Kyslychenk V., Stelmakh N. Posttraumatic growth in the context of forming a positive experience of volunteers in the information environment. *IJCSNS International Journal of Computer Science and Network Security*, 2022. Vol. 22, No 6. P. 562–670. DOI: <https://doi.org/10.22937/IJCSNS.2022.22.6.70>.
- Viznyuk I., Rokosovyy N., Vytrykhovska O., Paslawska A., Bielikova O., Radziievskia I. Information Support of the Educational Process in the Development of Leadership Potential of Modern University in the Conditions of Distance Learning. *IJCSNS International Journal of Computer Science and Network Security*, 2022. Vol. 22, No 4. P. 209–216. URL: http://paper.ijcsns.org/07_book/202204/20220426.pdf.
- Vizniuk I., Dzekan O., Dolyunnyi S., Fomin O., Fomina N., Ordatii N. Ukrainian experience of the pedagogical training of medical specialists in the context of European integration processes. *Revista Eduweb*, 2022. Vol. 16, No 4. P. 65–77. <https://doi.org/10.46502/issn.1856-7576/2022.16.04.6>.

References

- Kim, Y. J., & Cho, J. H. (2020). Correlation between Preventive Health Behaviors and Psycho-Social Health Based on the Leisure Activities of South Koreans in the COVID-19 Crisis. *International Journal of Envi-*

- ronmental Research and Public Health*, 17(11), 4066. DOI: 10.3390/ijerph17114066.
- Kokun, O.M., Ahaiev, N.A., Pishko, I.O., & Lozinska, N.S. (2015). *Osnovy psykholohichnoi dopomohy viiskovosluzhbovtsiam v umovakh boiovykh dii [Basics of psychological assistance to servicemen in combat conditions]*. Kyiv : NDTs HP ZSU. Retrieved from <https://core.ac.uk/download/pdf/84274034.pdf>.
- Kuchai, O., Yakovenko, S., Zorochkina, T., Okolnych, T., Demchenko, I., & Kuchai, T. (2021). Problems of Distance Learning in Specialists Training in Modern Terms of the Informative Society During COVID-19. *IJCSNS International Journal of Computer Science and Network Security*, 21(12), 143–148. Retrieved from <https://doi.org/10.22937/IJCSNS.2021.21.12.21>.
- Lazos, H. P. (2015). Rezilientnist: kontseptualizatsiia poniat, ohliad suchasnykh doslidzhen [Resilience: conceptualization of concepts, review of modern research]. *Psykholohichna dopomoha postrazhdalym vnaslidok kryzovykh travmatychnykh podii – Psychological assistance to victims of crisis-traumatic events*. (pp. 26–64). Kyiv: TOV «Vydavnytstvo «Lohos» [in Ukrainian].
- Mozhova, H.P., & Vizniuk, I. M. (2020). Psykholohichna rehabilitatsiia psykosomatychnykh khvorykh pratsezdatnoho viku [Psychological rehabilitation of psychosomatic patients of working age]. *Naukovyi chasopys NPU imeni M.P. Drahomanova. Seria 12. Psykholohichni nauky – Scientific journal of Drahomanov National Pedagogical University. Series 12. Psychological sciences*, 16 (61), 62–73. Retrieved from [https://doi.org/10.31392/NPU-nc.series12.2021.16\(61\).06](https://doi.org/10.31392/NPU-nc.series12.2021.16(61).06) [in Ukrainian].
- Nakaz vid 09.12.2015 № 702 «Pro zatverdzhennia Polozhennia pro psykholohichnu rehabilitatsiiu viiskovosluzhbovtsiv Zbroinykh Syl Ukrainy, yaki braly uchast v antyterrorystychnii operatsii, pid chas vidnovlennia boiezdatnosti viiskovykh chastyn (pidrozdiliv)» [On the approval of the Regulation on the psychological rehabilitation of servicemen of the Armed Forces of Ukraine who participated in the anti-terrorist operation during the restoration of combat capability of military units]*. Retrieved from <http://surl.li/pjkla> [in Ukrainian].
- Nakaz Ministerstva okhorony zdorovia Ukrainy 09 bereznia 2022 roku № 441 «Poriadok nadannia domedychnoi dopomohy postrazhdalym pry pidozri na poshkodzhennia khrebta» [The procedure for providing first aid to victims of suspected spinal cord injury]*. Retrieved from <http://surl.li/pjkkk> [in Ukrainian].
- Takahashi, T., Kawashima, I., Nitta, Y., & Kumano, H. (2020). Dispositional mindfulness mediates the relationship between sensory-

- processing sensitivity and trait anxiety, well-being, and psychosomatic symptoms. *Psychological reports*, 123 (4), 1083–1098. DOI: 10.1177/0033294119841848.
- Trudel-Fitzgerald, C., Millstein, R. A., von Hippel, C., Howe, C. J., Tomasso, L. P., Wagner, G. R., & VanderWeele, T. J. (2019). Psychological well-being as part of the public health debate? Insight into dimensions, interventions, and policy. *BMC public health*, 19(1), 1–11. DOI: 10.1186/s12889-019-8029-x.
- Tsekhmister, Yu., Vizniuk, I., Humeniuk, V., Yefremova, O., & Dolynnyi, S. (2022). Modern changes in the model of professional and pedagogical training of medicines in the context of European integration processes. *International Journal of Health Sciences*, 6(2), 972–986. DOI: <https://doi.org/10.53730/ijhs.v6n2.9440>.
- Vizniuk I., Bilan L., Tsokur O., Rozheliuk I., Podkovyrov N., & Symonenko T. Psychosomatic Health as a Factor of Human Social Adaptation in Postmodern Society. (2021). *Postmodern Openings*, 12(1), 54–73. Retrieved from <http://surl.li/pjklq>.
- Vizniuk I., Teslenko V., Martyniuk I., Savinova N., Biliuk O., Kyslychenk V., & Stelmakh N. (2022). Posttraumatic growth in the context of forming a positive experience of volunteers in the information environment. *IJCSNS International Journal of Computer Science and Network Security*, 22(6), 562–670. DOI: <https://doi.org/10.22937/IJCSNS.2022.22.6.70>.
- Vizniuk, I.M. (2020). Sotsialno-psykholohichni osoblyvosti adaptatsii osobystosti v aspekti zberezhenia zdorovia [Socio-psychological features of personality adaptation in the aspect of health preservation]. *Teoretychni i prykladni problemy psykholohii – Theoretical and practical problems of psychology*, 3 (53), 19–30. Sievierodonetsk : Vyd-vo SNU im. V. Dalia [in Ukrainian].
- Vizniuk, I., Rokosovyyk, N., Vytrykhovska, O., Paslawska, A., Bielikova, O., & Radziievska, I. (2022). Information Support of the Educational Process in the Development of Leadership Potential of Modern University in the Conditions of Distance Learning. *IJCSNS International Journal of Computer Science and Network Security*, 22(4), 209–216. Retrieved from http://paper.ijcsns.org/07_book/202204/20220426.pdf.
- Vizniuk, I., Dzekan, O., Dolynnyi, S., Fomin, O., Fomina, N., & Ordatii, N. (2022). Ukrainian experience of the pedagogical training of medical specialists in the context of European integration processes. *Revisita Eduweb*, 16(4), 65–77. Retrieved from <https://doi.org/10.46502/issn.1856-7576/2022.16.04.6>.

Лукашенко Юрій. Динаміка ефективності надання мультидисциплінарної реабілітаційної допомоги потерпілим із ушкодженнями хребта.

Ступінь ураження хребта є нині загрозою для здоров'я і стану оптимального функціонування організму людини в постравматичний період. Урахування особливостей механізму психогенних розладів в умовах повномасштабного російського вторгнення сприяє готовності фахівця до стресу й конфліктних ситуацій у реабілітаційний період роботи з потерпілими.

Метою статті є обґрунтування динаміки ефективності надання мультидисциплінарної реабілітаційної допомоги потерпілим із ушкодженнями хребта. Психокорекція має містити перелік тренувальних вправ, орієнтованих на розвиток самопізнання, підвищення психологічної культури, вдосконалення рефлексивних характеристик особистості, самоактуалізацію та передбачатиме оволодіння навичками довільної психофізичної саморегуляції стану.

Методи дослідження. Серед психодіагностичних методик використано такі: опитувальник «Зміна якості життя у зв'язку із захворюванням», методика визначення інтенсивності больового синдрому за візуально-аналоговою шкалою болю (ВАШ) та Міннесотський багатопрофільний особистісний опитувальник (MMPI-2) для оцінки психологічного статусу особистості. Характеристики рухової діяльності визначали згідно показників динаміки індексу ходи Хаузера, який визначає мобільність потерпілого та його здатність до вільного пересування і потребу в допоміжних підтримуючих засобах.

Результати дослідження. У досліджуваних із ушкодженням хребта під час госпіталізації та психокорекції в динаміці покращилися зміни щодо стану ходи за індексом Хаузера (сили м'язів) від $3,18 \pm 0,13$ бала в середньому по групі до $4,9 \pm 0,63$ після травми. Це свідчить про те, що через 10-12 міс. лікування усі досліджувані пересувалися без допомоги інших супровідних, деякі з яких – цілком самостійно, в межах та за межами житла щодо подолання порогів і невисоких бордюрів. Покращилася рухова активність і хода; спостерігалася помітне зниження інтенсивності болю, прояви тривоги та депресії.

Ключові слова: потерпілі, травма хребта, стан оптимального функціонування організму людини, психокорекція та відновлювальна терапія, реабілітація.

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