

FEATURES OF COMPREHENSIVE REHABILITATION OF WAR VETERANS

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Abstract

Introduction. The war waged against Ukraine is challenging both the nation and the state. The hostilities have caused significant destruction and profound physical, psycho-emotional and social trauma among servicemen and women. The issue of comprehensive rehabilitation of veterans is particularly relevant, as the consequences of combat operations include the development of post-traumatic stress disorder (PTSD), complex PTSD (CTSD), depression, anxiety and somatic disorders.

Aim. To analyse the peculiarities of comprehensive rehabilitation of war veterans, to determine the effectiveness of integrated methods of psychological care.

Materials and methods. A set of psychodiagnostic methods was used to assess the condition of 60 war veterans: the International Traumatic Events Questionnaire (ITQ); Four-Dimensional Symptom Questionnaire (4DSQ); Visual Analogue Scale (VAS). The study was conducted in the format of a longitudinal (prospective) study with a formative experiment.

Results. Comprehensive rehabilitation of war veterans, based on an integrated approach, shows high efficiency in restoring psycho-emotional state, mental and physical health. The use of the ITQ, 4DSQ and VAS diagnostic tools resulted in a decrease in symptoms: PTSD – by 22.5%, depression – by 55.3%, anxiety – up to 35% and somatisation – up to 45% from baseline. The results confirm the research hypothesis that comprehensive psychological rehabilitation contributes to a significant improvement in both the psycho-emotional and physical condition of veterans, contributing to their successful social adaptation.

Conclusions. Comprehensive rehabilitation of war veterans based on an integrated approach is an effective means of restoring psycho-emotional and physical health. The use of the ITQ, 4DSQ, and VAS techniques allowed us to objectively assess the improvement of the psycho-emotional state of participants in rehabilitation activities, which confirms the significant impact of psychological rehabilitation on the general condition of war veterans.

Keywords: comprehensive rehabilitation, psychological rehabilitation, war veterans, post-traumatic stress disorder, diagnosis

INTRODUCTION

The military conflict unleashed against Ukraine has been an extraordinary test for the Ukrainian people and state structures, exposing deep structural vulnerabilities and causing significant changes in the functioning of society. This conflict has had far-reaching physical, psycho-emotional and social consequences that have had a significant impact on the general health of the population, including military personnel directly involved in hostilities. The scientific analysis of the health status of military personnel and veterans is an extremely important

task, crucial for the development of effective strategies to support and rehabilitate this population. Such research is essential to ensure optimal functioning and harmonious recovery, facilitating the further integration of veterans into civilian life after the end of hostilities.

The problem of psychological rehabilitation of military personnel and veterans is caused by the complexity of the psychological consequences of combat experiences, which manifest themselves in a wide range of emotional, cognitive and behavioural dysfunctions. Prolonged exposure to a highly stressful environment, the

constant threat to life and the loss of colleagues lay the foundation for post-traumatic stress disorder, depression and anxiety, somatic disorders and, as a result, social maladjustment. The lack of timely professional support significantly complicates the process of adaptation to civilian life, exacerbates crisis states and stimulates the emergence of destructive behavioural patterns [10]. In view of the above, one of the key stages in the restoration of physical and mental health is psychological rehabilitation, aimed at normalising the emotional state, restoring cognitive functions and modifying disturbed behavioural patterns.

AIM

The aim of the research is to analyse the peculiarities of comprehensive rehabilitation of war veterans, to determine the effectiveness of integrated methods of psychological assistance, and to study the changes in the psycho-emotional and physical state of soldiers by means of diagnostics using the ITQ, 4DSQ and VAS methods.

MATERIALS AND METHODS

The research sample included 60 men aged 22-57 – war veterans who had sustained injuries of varying severity as a result of hostilities in the Zaporizhzhia and Donetsk regions. They underwent treatment and rehabilitation in hospitals in Zaporizhzhia, where they were diagnosed with PTSD. Participants were those recommended for psychological rehabilitation by doctors in multidisciplinary teams, as well as those who voluntarily decided to receive such services for four months. Inclusion in the sample was based on the presence of clinically significant symptoms that met the criteria for PTSD or CPSD, and exclusion was based on the presence of severe somatic illnesses, addictions (alcohol and/or drugs) that complicated psychological intervention. The data were analysed using basic mathematical statistical methods and Pearson correlation analysis, with the critical significance level set at $p = 0.05$.

The experimental work consisted of several stages. The preparatory stage included the assessment of rehabilitation needs, training of the staff of the Persona Studio of Practical Psychology in rehabilitation-related training courses, development of a diagnostic complex and a rehabilitation programme. The ascertaining stage included psychodiagnostics of the initial condition of the persons concerned. The formative stage consisted of the implementation of the rehabilitation programme, and the final stage included repeated psychodiagnostics, analysis of the results, and drawing conclusions. The multidisciplinary team consisted of a psychologist, an osteopath, a psychiatrist and a speech therapist. The research was conducted in the design of a longitudinal (prospective) study with a formative experiment.

The International Traumatic Events Questionnaire (ITQ) [5], the Four-Dimensional Symptom Questionnaire (4DSQ) [4] and the Visual Analogue Scale (VAS) [3] were used for diagnosis. The research was conducted at the beginning and end of the experiment, with ongoing monitoring of the veterans' mental state using the Verinigma mobile application [12]. Mathematical and statistical data processing was performed using JASP [6] and Microsoft Excel.

RESULTS

Psychological rehabilitation of war veterans shows a pronounced effectiveness in reducing psychotraumatic symptoms and improving their general psycho-emotional state. Here are the main results of the pre- and post-rehabilitation diagnostics. The ITQ data show a significant reduction of 22.5% in the proportion of people with classic PTSD (from 57.5% to 35%) and 17.5% in the proportion with CPSD (from 42.5% to 25%). Analysis of the 4DSQ scale showed that levels of distress were halved (from 80% to 40%), depressive symptoms fell from 85% to 30% and anxiety from 82.5% to 35%. Most impressive is the dynamic of somatisation – a decrease from 100% to 45% indicates the effective elimination of psychosomatic pain symptoms. According to the results of the VAS physical discomfort assessment, significant relief was noted: minimal pain was reported by 30% of participants after rehabilitation (compared to 5% before the intervention), and the proportion of people with severe and unbearable pain decreased from 25% and 15% to 10% and 5%, respectively.

DISCUSSION

Psychological rehabilitation of military personnel and war veterans is a complex process aimed at restoring their psycho-emotional state, adaptation to civilian life and social integration. Given the significant impact of combat stress, a rehabilitation programme should be based on evidence-based psychotherapeutic methods and combine physical, psychological and social support. The research developed a psychological rehabilitation programme that included key areas of intervention. The main aims of the programme were to correct emotional and behavioural dysfunction, improve mental health, prevent borderline mental disorders, reduce pain symptoms, build psychological resilience and develop self-regulation skills. It also included work on social interaction, psycho-emotional state monitoring and the use of psychological resources to overcome the effects of combat stress.

The rehabilitation was carried out on three levels. The physical level involved the work of an osteopath to reduce muscle tension and improve general health. The psychological level included individual consultations with a psychologist, a psychiatrist and a speech therapist. The

social level included activities for the social adaptation of the veterans and their families, including training and a round table discussion with representatives of the employment service and community members.

The proposed comprehensive rehabilitation programme not only reduces pain symptoms and stabilises the psycho-emotional state, but also promotes long-term recovery and social integration. The combination of physical, psychological and social interventions significantly increased the veterans' level of adjustment and ensured their sustainable psycho-emotional well-being. The results confirm the effectiveness of an integrated approach to the rehabilitation of war veterans. The integration of psychological techniques (cognitive-behavioural therapy, exposure therapy, biosuggestive therapy, EMDR, art therapy, speech therapy, VR therapy (Meta Quest 3 128GB virtual reality goggles [94851]), group work and family support) with physical and medication treatment led to a significant reduction in symptoms of PTSD and CPSD. Significant reductions in levels of distress, depression, anxiety and somatisation indicate the restoration of psycho-emotional balance and the strengthening of adaptive mechanisms in participants in the rehabilitation programme.

A significant element in this study was the utilisation of standardised diagnostic techniques, with the ITQ enabling the quantification of changes in the severity of post-traumatic disorders and the 4DSQ facilitating the measurement of changes in the emotional state accompanying these disorders. The VAS scale provided a subjective assessment of the level of physical discomfort, which is an important indicator of somatic manifestations of stress, psychotrauma, and physical pain. The correlation analysis yielded a high negative correlation between the intensity of rehabilitation measures and the levels of depression ($r = -0.76$), somatisation ($r = -0.78$) and anxiety ($r = -0.73$). This indicates a significant impact of the integrated therapeutic approach on improving the condition of participants.

Notwithstanding the positive dynamics, residual symptoms (particularly PTSD and some somatic symptoms) indicate the necessity for long-term psychotherapeutic support and the development of individualised psychological rehabilitation programmes, taking into account the specifics of each war veteran's traumatic experience.

CONCLUSIONS

The findings of the present study indicate the considerable effectiveness of psychological rehabilitation in war veterans, a conclusion substantiated by a significant reduction in the manifestations of PTSD and CPTSD. Prior to the commencement of the rehabilitation programme, none of the participants exhibited a complete absence of symptoms; however, following the completion

of the rehabilitation course, 40% no longer met the diagnostic criteria for PTSD. The rate of PTSD decreased by 22.5% (from 57.5% to 35%), indicating a positive impact on the overcoming of traumatic experiences. Concurrently, the number of individuals diagnosed with CPTSD decreased by 17.5% (from 42.5% to 25%), suggesting the complexity of this disorder and the necessity for extended or combined approaches to treatment and psychological support.

The 4DSQ scale was analysed, which confirmed a significant improvement in the psychophysical state. Distress after rehabilitation decreased by half (from 80% to 40%), depressive symptoms by 85% (from 85% to 30%), and anxiety by 82.5% (from 82.5% to 35%). The dynamics of somatisation were particularly pronounced, with 100% of veterans experiencing psychosomatic symptoms and severe pain symptoms prior to rehabilitation, decreasing to 45% post-rehabilitation. This emphasises the importance of psychotherapeutic interventions in reducing the physical manifestations of stress. The VAS scale recorded a significant improvement in the physical condition, with the proportion of people experiencing severe pain decreasing from 40% to 15%. Furthermore, the emotional state of the subjects also improved, with the proportion of respondents experiencing severe emotional disturbances decreasing from 52.5% to 15%, and cognitive impairment (memory and concentration problems) decreasing from 65% to 35%. Finally, behavioural changes indicate a decrease in maladaptive reactions, with the proportion of people displaying minimal changes increasing from 12% to 40%.

The correlation analysis revealed a significant negative relationship between rehabilitation and depression ($r = -0.76$), somatisation ($r = -0.78$) and anxiety ($r = -0.73$). Concurrently, PTSD demonstrated a less pronounced relationship ($r = -0.54$), which can be attributed to more stable neuropsychological changes. The positive impact of rehabilitation was observed in the reduction of pain, cognitive and behavioural disorders ($r = 0.67-0.74$). Therefore, an integrated approach to rehabilitation, including psychotherapeutic, medication and body-oriented techniques, proved effective in reducing PTSD symptoms and improving the overall psycho-emotional state. Nevertheless, the persistence of symptoms, particularly in cases of PTSD and somatic manifestations, underscores the necessity for prolonged follow-up, social adaptation, and the augmentation of support programmes.

Prospects for further research. Further research should be directed towards the development of diversified approaches to rehabilitation, with the severity of psychotraumatic symptoms as the primary factor in determining these approaches. In addition, there is a need for research that analyses the long-term effects of integrated rehabilitation measures, with the introduction

of the latest technologies, such as VR therapy, being a key priority in this regard. Such technologies have the potential to increase the accessibility and effectiveness of psychological assistance. Furthermore, particular attention should be paid to the development of social adaptation programmes, including professional retraining and the integration of veterans into the labour force.

FUNDING AND CONFLICT OF INTEREST

The research was conducted by the authors with their own financial resources. There is no evidence of a conflict of interest.

COMPLIANCE WITH ETHICAL REQUIREMENTS

The research was conducted in accordance with the requirements of the Helsinki Declaration and the legislation of Ukraine in the field of health care. It was

also in compliance with the Ethical Code of Psychology and the current regulatory framework of Ukraine.

Prior to the commencement of the study, all participants received full information regarding the aims, methods, potential risks, and benefits of participation. All participants provided written informed consent to participate in the research. Participants had the right to withdraw from the study at any time, without explanation.

AUTHOR CONTRIBUTIONS

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Резюме

ОСОБЛИВОСТІ КОМПЛЕКСНОЇ РЕАБІЛІТАЦІЇ ВЕТЕРАНІВ ВІЙНИ

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Вступ. Війна, розв'язана проти України, стала масштабним випробуванням для всієї нації та держави. Бойові дії спричинили значні руйнування, викликавши глибокі фізичні, психоемоційні та соціальні травми серед військовослужбовців. Особливо актуальною є проблема комплексної реабілітації ветеранів, оскільки наслідки бойових дій включають розвиток посттравматичного стресового розладу (ПТСР), комплексного ПТСР (КПТСР), депресивних, тривожних та соматичних розладів.

Мета. Аналіз особливостей комплексної реабілітації ветеранів війни, визначення ефективності застосування інтегрованих методів психологічної допомоги.

Матеріали та методи. Для оцінки стану 60 ветеранів війни було використано комплекс психодіагностичних методик: міжнародний опитувальник травматичних подій (ITQ); чотиривимірний опитувальник симптомів (4DSQ); візуально-аналогова шкала (VAS). Дослідження проводилося у форматі поздовжнього (проспективного) дослідження з проведенням формульовального експерименту.

Результати. Комплексна реабілітація ветеранів війни, яка ґрунтується на інтегрованому підході, демонструє високу ефективність у відновленні психоемоційного та фізичного здоров'я. Застосування діагностичних методик ITQ, 4DSQ та VAS дозволило зафіксувати зниження симптоматики: ПТСР – на 22,5%, депресії – на 55,3%, тривожності – до 35% та соматизації – до 45% від вихідних показників. Отримані результати підтверджують гіпотезу дослідження, що комплексна психологічна реабілітація сприяє суттєвому покращенню як психоемоційного, так і фізичного стану ветеранів, сприяючи їхній успішній соціальній адаптації.

Висновки. Комплексна реабілітація ветеранів війни, заснована на інтегрованому підході, є ефективним засобом відновлення психоемоційного та фізичного здоров'я. Використання методик ITQ, 4DSQ та VAS дозволило об'єктивно оцінити покращення психоемоційного стану учасників реабілітаційних заходів, що підтверджує значний вплив психологічної реабілітації на загальний стан ветеранів війни.

Ключові слова: комплексна реабілітація, психологічна реабілітація, ветерани війни, посттравматичний стресовий розлад, діагностика

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