



PSYCHOTHERAPY OF POST-TRAUMATIC STRESS DISORDER IN MILITARY SERVANTS USING EMDR: THE “THREE YES” PROTOCOL

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Abstract

Relevance. The purpose of the publication is to verify the effectiveness of the EMDR therapy protocol in the complex treatment of military personnel with PTSD, which was carried out at the Feofania Clinical Hospital (Kyiv) and the Military Medical Clinical Center of the Northern Region in the period 2022-2025 (Kharkiv).

Methodology. Methods. Comparative research strategy. Interview and included observation. The authors developed the “Three Yes” protocol for the use of EMDR therapy for the treatment of military personnel of the Armed Forces of Ukraine with PTSD. Self-assessment scale for the presence of PTSD PCL-5 (DSM-5 PTSD Checklist), Hospital Anxiety and Depression Scale HADS, Beck Depression Inventory DBI, Pittsburgh Sleep Quality Index PSQI. Statistical methods: Student's T-test for independent samples, Cohen's coefficient.

Sample. 125 military personnel of the Armed Forces of Ukraine with a confirmed diagnosis of PTSD, including 98 people - the experimental group and 27 military control group - patients with the same nosology who did not receive EMDR therapy.

Results. The results of the implementation of the "Three Yes" protocol confirm international data on the effectiveness of EMDR (Moreno-Alcázar, 2017, 65–74). During the adaptation of the method to the conditions of war in Ukraine, predictors were identified that improve the effectiveness of therapy: a high level of general and emotional intelligence of the patient, professional self-realization, critical thinking, high level of education, sports achievements, purposefulness, self-discipline, responsibility, assertiveness, as well as the socialization of the military, healthy family relationships, experience of working with a psychologist. The effectiveness of EMDR - therapy for the military is reduced by: the duration of hostilities in which the patient was involved, losses among comrades, ATO experience, unconstructive orders of commanders, experience of addiction, personal accentuations, low level of socialization and professional self-realization, tendency to mental fusion, unresolved separation, divorce, bad family relationships, absence of children.

Keywords: war, PTSD, anxiety, depression, sleep disorders psychotherapy, EMDR - therapy for the military, "Three Yes" protocol.

Relevance

The full-scale invasion of Ukraine has heightened the relevance of the tasks of providing psychological assistance to military personnel participating in combat

operations and treating and restoring the health of military personnel. According to international data, the health status of combat veterans in the range of 10% to 30% of cases meets the criteria for post-traumatic stress disorder (PTSD) (Wisco et al., 2014: 1338–1346), (VA/DoD, 2023:3).

The need for high-quality psychotherapy forces specialists to adapt known methods to modern realities and develop protocols that take into account the difficulties of establishing contact with such population groups, taking into account the comorbidity of post-traumatic stress disorder, which is often accompanied by anxiety disorders, depressive episodes, somatic complaints, as well as persistent sleep disorders (WHO, 2013: 105-108). These mental states of hospitalized soldiers significantly complicate the processes of their treatment and recovery, forcing specialists to look for effective means of psychotherapeutic assistance to such patients.

The American Psychiatric Association (APA, 2017: 33), the National Institute for Health and Care Excellence (NICE, 2018, section 1.6.18), and the World Health Organization (WHO, 2013: 27) recognize EMDR as a first-line therapy for the treatment of post-traumatic stress disorder.

The Eye Movement Desensitization and Reprocessing (EMDR) method developed by Frensis Shapiro, which has received a broad international evidence base, contains the appropriate theoretical and methodological basis for the authors of the article to develop a specialized protocol for working with military personnel diagnosed with PTSD, which meets the conditions of the Ukrainian-Russian war and its consequences for the mental health of such a contingent of the country's population.

The purpose of this work is to describe and summarize the results of using EMDR in the complex treatment of military personnel with PTSD, taking into account comorbid mental disorders (anxiety, depression), as well as sleep disorders. Similar studies are presented in international sources (Bisson, 2019: 475–483), however, data on the use of EMDR for psychological assistance to patients with PTSD in war conditions in Ukraine are still lacking.

Methodology

The study was conducted at the Feofania Clinical Hospital and the Military Medical Clinical Center of the Northern Region in the period 2022-2025. Sample. 98 servicemen with a confirmed diagnosis of PTSD were included in psychological observation and psychotherapeutic intervention, most of whom additionally had anxiety disorders, depressive episodes, and sleep disorders. The control group consisted of 27 servicemen who, for one reason or another, did not participate in psychotherapy.

Methods. The authors developed the "Three Yes" protocol. To test its effectiveness and assess the dynamics of patients' symptoms, the following were used: the PCL-5 PTSD Self-Assessment Scale (DSM-5 PTSD Checklist), the HADS Hospital Anxiety and Depression Scale, the DBI Beck Depression Inventory, and the Pittsburgh Sleep Quality Index (PSQI) to



assess sleep quality. Such tools are widely used in international studies and comply with APA recommendations (APA, 2017:17).

Patients with a confirmed diagnosis of PTSD underwent therapy according to the “Three Yes” protocol based on the EMDR method. The course included 8 to 12 individual sessions, and some participants received an intensive format with several sessions per week. If necessary, the main intervention was supplemented with medication and psychoeducation.

A mixed (between-group) design was used with two groups (therapy and control) with measurements before and after for the same period of time. The first group received therapeutic interventions according to the “Three Yes” protocol, the second group received psychoeducation. The second group consisted of patients who, for personal reasons, refused to work with a psychologist or did not have the physical ability to conduct sessions, or were in intensive care for a significant amount of time.

To statistically assess the effectiveness of the intervention and compare the changes in indicators between the therapy group and the control group, the Student's T-test for independent samples was used based on the difference in indicators (“after” minus “before”). The variance of the change was estimated for both groups with a correlation coefficient of $r = 0.6$ between measurements. The Cohen's coefficient was used to assess the clinical significance of the effect size of the “Three Yes” protocol.

Results

As a result of a comparative study of the effectiveness of the “Three Yes” protocol in the psychotherapy of post-traumatic stress disorder in military patients, a significant reduction in PTSD symptoms was observed in the experimental group of patients. Statistical information regarding the studied groups (psychotherapy group and control group) according to the Self-Assessment Scale of PTSD PCL-5 is presented in Table 1.

As can be seen from Table 1, in the therapy group the average score of patients with PTSD on the PCL-5 scale decreased from 52.2 ± 7.2 to 40.4 ± 6.1 points, and in the control group over the same period – from 51.4 ± 7.4 to 47.3 ± 7.0 points. The actual difference in the rehabilitation rates of the participants of the comparison groups is 11.8 versus 4.1, i.e. in the EMDR therapy group the statistically recorded rate of recovery of patients is almost three times higher than that of patients with the same diagnosis, but with different treatment regimens.

A significant difference in the effectiveness of treating military patients with PTSD symptoms with EMDR therapy is also indicated by the high statistical significance of the intergroup differences between the experimental and control groups (-5.74 , $p < 0.001$). Cohen's effect coefficient (Cohen's $d = 1.25$), calculated on the basis of empirical data on the PTSD Self-Assessment Scale, also indicates that the strength of the therapeutic effect when using the “Three Yes” protocol in working with servicemen of the Ukrainian armed forces diagnosed with PTSD is large.

Table 1. Results of comparative calculations of the indicators of participants in the EMDR therapy group and the control group using the PCL-5 method

Parameter	Psychotherapy group	Control group	Statistical tool	Effect statistics
Number of participants	98	27	T-test (t)	-5.74
Mean BEFORE (X^-)	52.2	51.4	Degrees of freedom (df)	123
Mean AFTER (X^-)	40.4	47.3	Significance level (p)	p<0.001
Mean CHANGE (ΔX^-)	-11.8	-4.1	Effect size (Cohen's d)	1.25
Estimated SD change	6.09	6.45	Pooled SD change	6.17

Taken together, this means that the selected psychotherapeutic practice of EMDR therapy and the procedure for its implementation proposed by the authors in the treatment of patients with posttraumatic stress disorder of military etiology provide a statistically reliable effect, which significantly exceeds the changes in the mental status of patients with a similar diagnosis, but without EMDR intervention.

The next stage of the study was the assessment of the dynamics of anxiety and depression of patients with a diagnosis of PTSD in the comparison groups using the Hospital Anxiety and Depression Scale (HADS). The main statistical results of this work are summarized in the following table 2.

Table 2. Results of a comparative assessment of the indicators of the EMDR therapy group and the control group using the HADS method

Parameter	Psychotherapy group	Control group	Effect statistics	Interpretation
Number of participants	98	27	T-test (t)	- 4.93
Mean BEFORE (X^-)	15.3	15.4	Degrees of freedom (df)	123
Mean AFTER (X^-)	11.4	14.2	Significance level (p)	p<0.001
Mean CHANGE (ΔX^-)	-3.9	-1.2	Effect size (Cohen's d)	1.07
Estimated SD change	2.44	2.82	Pooled SD of change	2.52



As can be seen from Table 2, according to the Hospital Anxiety and Depression Scale (HADS) method, the indicators in the psychotherapy group demonstrate a significant decrease from 15.3 ± 2.9 to 11.4 ± 2.5 , i.e. by 3 points, while in the control group, the indicators became lower by only 1 point – from 15.4 ± 3.1 to 14.2 ± 3.2 .

The calculated difference between the psychotherapy group and the control group also turned out to be statistically significant at a high level ($-4.93, p < 0.001$). In addition, the strength of the psychotherapeutic effect calculated using the Cohen's coefficient demonstrates a large effect (Cohen's $d = 1.07$). Thus, the results of the dynamics of anxiety and depression in patients with PTSD, obtained using the Hospital Depression and Anxiety Scale, confirm that the implemented psychotherapy according to the "Three Yes" protocol demonstrates a powerful and statistically reliable effect, which significantly exceeds the change in the health status of military patients with a diagnosis of PTSD, who were included in the control group of our study.

Further comparative analysis showed that as a result of psychotherapeutic interventions according to the EMDR therapy program, depression indicators also decreased in the studied patients of the experimental group. Statistical calculations that substantiate this conclusion using data from the Beck Depression Inventory (BDI) are presented in Table 3.

Table 3. Results of statistical calculations of comparative indicators of the EMDR therapy group and the control group using the BDI method

Parameter	Psychotherapy group	Control group	Effect statistics	Interpretation
Number of participants	98	27	T-test (t)	-5.26
Mean BEFORE (X^-)	17.0	17.2	Degrees of freedom (df)	123
Mean AFTER (X^-)	12.1	16.4	Significance level (p)	$p < 0.001$
Mean CHANGE (ΔX^-)	-4.9	-0.8	Effect size (Cohen's d)	1.14
Estimated SD change	3.55	3.76	Pooled SD of change	3.59

Analyzing the data in the table, we can see that in the EMDR-therapy group, such indicators shifted down from 17.0 ± 4.4 to 12.1 ± 3.1 , almost by 5 points, and in the control group - a little more than by one point (from 17.2 ± 4.1 to 16.4 ± 4.3).

Also, the calculations prove that the statistical significance of the differences between the indicators of participants in the psychotherapy group with a diagnosis of PTSD and patients with the same diagnosis in the control group is high ($-5.26, p < 0.001$). The strength

of the psychotherapeutic effect also has a large Cohen's effect size (Cohen's $d = 1.14$). Therefore, according to this parameter, EMDR therapy demonstrated a powerful and statistically reliable effect on the psychological well-being of patients with PTSD, which significantly exceeds the changes recorded in the same period in patients in the control group with a similar diagnosis, whose treatment did not involve the use of EMDR therapy.

The final stage of the comparative study of the effectiveness of the "Three Yes" protocol was the implementation of the task of monitoring the sleep quality of its participants as an important indicator of the rehabilitation process of a patient with PTSD. According to the "Pittsburgh Sleep Quality Index" (PSQI) methodology, presented in Table 4, the average score of military participants in the psychotherapy group decreased from 11.4 ± 2.3 to 9.2 ± 2.1 , i.e. by 2.2 points, and in the control group of military patients by only 0.6 points (from 11.2 ± 2.1 to 10.6 ± 2.7).

Table 4. Results of comparative calculations of the indicators of the EMDR therapy group and the control group using the PSQI method

Parameter	Psychotherapy group	Control group	Effect statistics	Interpretation
Number of participants	98	27	T-test (t)	- 4.28
Mean BEFORE (X^-)	11.4	11.2	Degrees of freedom (df)	123
Mean AFTER (X^-)	9.2	10.6	Significance level (p)	$p < 0.001$
Mean CHANGE (ΔX^-)	-2.2	-0.6	Effect size (Cohen's d)	0.93
Estimated SD change	1.66	1.93	Pooled SD of change	1.72

The statistical significance of the difference indicator found between the EMDR therapy group and the control group is high (-4.28 , $p < 0.001$). Cohen's coefficient (Cohen's $d = 0.93$) was also high. This allows us to responsibly state that the strength of the therapeutic effect has a large effect size. Therefore, EMDR therapy, carried out according to the author's protocol "Three Yes" and here demonstrated a strong and statistically reliable effect on the quality of sleep of soldiers who were involved in the treatment of PTSD symptoms using the specified psychotherapeutic practice. At the same time, the effect on the change in the mental health of military patients in the experimental group significantly exceeded the rehabilitation indicators of PTSD patients from the control group. The protocol for the use of EMDR therapy "Three Yes" developed and approved by the authors involves the use of methods of included observation and conversation by a specialist in working with patients in addition to the EMDR technique. Therefore, most of



the participants in the experimental group, during and after the EMDR therapy therapeutic intervention program, verbally reported improvements in their sleep: reduced time to fall asleep, fewer nighttime awakenings, and a reduced need for sleeping pills.

Overall, the “Three Yes” protocol developed by the authors demonstrated its environmental friendliness and good adaptation to inpatient treatment conditions, and was well-received by patients, in particular, the level of refusal from therapy among them was lower than described for other methods (Lewis, 2020:3).

Field observations while working with Ukrainian military personnel and experience in professional use of EMDR therapy helped the authors identify factors that reduce the effectiveness of therapy: the duration of hostilities in which the patient was involved, losses among comrades, ATO experience, unconstructive orders from commanders, experience of addiction, personal accentuations, low level of socialization and professional self-realization, tendency to mental fusion, unresolved separation, divorce, poor family relationships, absence of children (Dyma P., 2025: 1832-1849). And also to identify predictors that improve the effectiveness of therapy for a military person diagnosed with PTSD: high level of general and emotional intelligence, professional self-realization, critical thinking, high level of education, sports achievements, purposefulness, self-discipline, responsibility, assertiveness, socialization, healthy family relationships, experience of working with a psychologist.

Discussion

The results of implementing the “Three Yes” protocol confirm international data on the effectiveness of EMDR (Moreno-Alcázar, 2017, 65–74). This method demonstrates effectiveness comparable to cognitive behavioral therapy (CBT). At the same time, the specificity of combat PTSD is greater resistance to treatment (Wisco, 2014: 1338–1340). The authors' data partially confirm this trend: despite the fact that the overall effect of the therapy was positive, some patients progressed slower than described in the sample of civilian victims.

Of particular importance is the issue of the acceptability of the method for the military and its advantages. The EMDR technique does not require a detailed verbal description of the trauma, which reduces the psychological barrier in interaction with such a patient and increases his compliance as a willingness to conscientiously follow the recommendations of the psychotherapist (Lewis, 2020: 5-7). This feature makes EMDR therapy a valuable tool for military medicine.

Limitations of the current study include a small sample and a short period of clinical observation of patients after completing the EMDR therapy course.

Further studies involve expanding the sample of patients, organizing monitoring of the effectiveness of this therapeutic method over time in the clinic for the treatment of military patients diagnosed with PTSD using the “Three Yes” protocol.

Conclusions

The author's protocol "Three Yes" for the use of EMDR therapy in clinical settings of a medical hospital has demonstrated effectiveness in the treatment of PTSD in military personnel who participated in hostilities in Ukraine in 2022–2025. The study showed that the use of the protocol leads to a significant reduction in PTSD symptoms, anxiety and depression in soldiers suffering from PTSD, and is also accompanied by an improvement in the quality of sleep of injured soldiers. According to observations of the activity of participants during psychotherapy sessions and conversations with soldiers, the EMDR method was acceptable for most patients.

The results of the current study are consistent with the data of international meta-analyses and methodological guidelines for psychotherapists and psychologists (APA, 2017; NICE, 2018; VA/DoD, 2023).

Further large-scale studies in the direction chosen by the authors are needed, in particular, to confirm the long-term effectiveness of EMDR therapy for combat PTSD in military patients.

Conflict of interest. The authors are not aware of any conflict of interest in the preparation of this publication.

Disclaimer. The authors declare that their opinions and views expressed in this manuscript are not subject to the influence of any organizations.

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