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## **SCREENING INVESTIGATION OF CLINICAL AND PSYCHOLOGICAL MANIFESTATIONS OF POST-TRAUMATIC STRESS SYNDROME IN COMBATANTS WITH OPTIC TRAUMA**

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### **Abstract**

The objective: to make screening evaluation of post-traumatic stress syndrome in combatants with optic injuries to further optimize their medical and psychological support. Under the conditions of PIC 100 combatants were examined. 54 of them had optic injury with partial vision loss at the background of post-traumatic stress syndrome (PTSS) and 46 persons had symptoms of PTSS. Mental health of all the subjects was examined. For this they used the CAPS - scale and Neurotization and Psychopathization Questionnaire (NPQ). Use of CAPS –scale for screening allows to suspect symptoms of PTSS in the persons under examination. For their understanding and interpretation it is necessary to compare them with the data of clinical - diagnostic examinations. The use NPQ for screening with the aim to identify signs of psychological maladjustment among combatants and those with visual trauma fully satisfies the research. The established levels of neurotization and psychopathisation clearly demonstrate a shift in psychological maladjustment. Further research is advisable to direct to the development of a detailed study of the psychological state of persons with symptoms of post-traumatic stress disorder.

**Key words:** post-traumatic stress syndrome, psychological maladjustment, combat optic injury.

**Introduction.** Although optic area is small and does not exceed 0.1% of the human 's body total surface, optic injuries account for 6% of casualties in combat (according to Operation Iraqi Freedom / Operation Enduring Freedom) [1]. According to the analysis of the combatants with the consequences of military trauma, who were certified by medical expert commissions of 20 Ukrainian regions in 2015 and were recognized as disabled, the number of combatants with optic and orbit injuries constituted 3.5% [2]. According to the Military Medical Center of the Western Region data, the number of individuals with eye and orbit injuries receiving medical care at this facility in 2014 - 2017 constituted 2% [3].

Not accounting for the overwhelming amount, optic and orbit traumata are among the major disabling pathologies of combat trauma and disability due to trauma of such localization is 84.5% [4]. However, if advances in ophthalmology over the past 30 years give rise to the hope that the number of cases of blindness after combat wounding will decrease significantly [1] in the future, the problem of psychological consequences of combat optic trauma is still unsolved. Meanwhile, it is clear that in a situation of partial loss of vision due to wounding in combat, the person suffers from the action of several powerful stress factors: psychological maladaptation through the change of civilian lifestyle to the military one; psychopathological response to participation in military actions; the consequences of a partial loss of vision that destroys the habitual lifestyle of the injured.

The origins and consequences of each of these manifestations are different, but the importance of their interaction investigation is undeniable. Taking this into account, we believe that there is an urgent need to develop specialized high-targeted approaches to medical – and - psychological rehabilitation of combatants with partial loss of vision of traumatic genesis, because neglect of any factors of psychopathogenesis, especially psychological care, leads to poor rehabilitation of this contingent.

So, in our opinion, there is a need to optimize measures for rendering medical and psychological support for combatants with partial loss of vision of traumatic genesis in combination with manifestations of post-traumatic stress syndrome (PTSS).

**The objective:** to conduct a screening assessment of the manifestations of PTSS to further optimization of medical and psychological support for combatants with partial loss of vision of traumatic genesis.

**Materials and methods.** Under the conditions of PIC and adhering to the principles of bioethics and deontology, 100 combatants were examined during 2014–2018. 54 of them had optic injury with partial vision loss (index group); group of comparison consisted of 42 combatants. The persons under study aged 20-53 y.o. The candidates with clinically verified and officially diagnosed (in health care establishments) diagnoses of brain injuries that preceded or accompanied optic injury. Persons with officially established mental illnesses, including alcoholism, drug and substance abuse, also did not participate in the investigation, too. The examination of mental state was carried out at 6<sup>th</sup> -7<sup>th</sup> months after surgical intervention in persons with optic traumatic lesions and after the completion of participation in the military actions and demobilization.

All respondents were screened for a psychiatric condition using the CAPS-scale (Clinical-administered PTSD Scale) [5, 6], Neurotization and Psychopathization questionnaire (NPQ) [7, 8]. The results were processed by statistical analysis methods.

**Results.** All participants were identified signs of psychological post-traumatic stress syndrome of different content and severity.

Screening testing of participants with CAPS-scale for one month period found significant deviations compared to the range of regulatory indicators (Table 1).

Table 1

Clinical administered PTSD Scale (CAPS) assessment levels

Scales	IG	CG
F - symptom frequency	25.64±4.07	23.42±4.31
I - intensity of symptoms	27.03±4.17	26.41±4.78
T - the sum of points	52.67±4.12	49.83±4.55

Scores in the study by scales-method were increased compared to the generally accepted range of norms (especially this concerned the assessment of the intensity of manifestations). But in meaningful interpretation, clinical manifestations were interpreted by the participants as short-term (paroxysmal) ones. By affiliation to diagnosis criteria A-G manifestations did not always meet the requirements of the methodology. Two or three of them were the frequency, time of occurrence, or meaningful characteristics of the manifestations. In their totality, the signs did not meet the criteria for PTSS diagnosis. They did not satisfy the requirements both in time of occurrence and their spectrum. Compared with the diagnosis according to the criteria of ICD-10, clinical picture did not fully meet the

results got according to the method mentioned. This testified to the need to combine clinical and diagnostic studies in combination with psychodiagnostic.

Substantial analysis of NPQ - scale showed that the statements included in the neuroticism scale contain such characteristic manifestations of neurotic states as rapid fatigue, sleep disturbance, hypochondriacal fixation on unpleasant somatic sensations, decreased mood, increased irritability, agitation, excitability, fears, anxiety, self-dout (Table 2).

Table 2

Levels of neuroticism and psychopathization

Scales	IG	CG
neurotization	-67.24 ± 4.21	-56.34 ± 4.28
Psychopathization	-43.37 ± 4.35	-34.51 ± 4.35

The statements of the psychopathization scale cover only some of the traits typical for psychopathic persons: indifference to the principles of sense of duty and morality, indifference to the opinion of others, increased non-conformism, desire to stand out among others, hypocrisy, hot temper, suspicion, self-esteem and self-confidence. It should be noted that the farther from the pole of the scales the individual scores are located, the less the individuals will have the following characteristics. At a high level of neuroticism (high absolute value of a negative assessment), a pronounced emotional excitability can be observed, which produces various negative experiences (anxiety, tension, confusion, irritability). The uninitiated nature of these individuals generates feelings connected with of dissatisfaction of desires. Their self-centered personality orientation manifests itself in a tendency to hypochondriacal fixation on unpleasant somatic sensations, and in a focus on the experiences of their personal defects. This, in turn, creates feelings of inferiority, difficulty in communication, social timidity and dependence, self-doubt, and the worst general adaptability. Sleep disturbances, increased fatigue and other asthenic manifestations are possible.

High level of psychopathization testifies to lightness, cold attitude to people, perseverance, stubbornness in interpersonal relationships; neglect of norms of sense of duty and morality, unpredictability of actions and possibility of creating conflict situations; the desire to stand out from the environment, increased self-esteem and self-confidence; indifference to the opinion of others, increased non-conformism, carelessness, hypocrisy, affectability, suspicion.

Formation of PTSS phenomena is under the influence of stressful influence of external circumstances, which correct the development of personality new behavioral strategies. When return to the usual framework of life (in our case – peace time) and against the background of new behavior optimization, there is a conflict between old and new strategies in similar situational conditions. The first structure that contributes to the development of PTSS was stress after-effects acquired during military service and combat affected the formation of new behavioral strategies. Their assimilation took place under the conditions of psychological and somatic stress, the presence of a real vital threat. This process was in line with the individual's life new conditions. These strategies were quite relevant and accompanied by a high level of emotional and affective manifestations. They were confirmed by their successful use in combat and allowed the individual to survive and function under these conditions. It can be said that as a result of participation in military operations, the person has acquired relevant to him experience and received additional tools for successful life. But the application of behavioral patterns acquired and effective in combat leads to conflict situations in public and personal life and professional activities and this resulted in psychological maladaptation. Another factor contributing to the development of PTSS in response to stressful effects with signs of a vital threat, is participation in military operations. In the event of optic trauma with subsequent partial loss of vision an additional stress reaction develops. It requires the personality to further modify behavioral strategies aimed at adapting to new conditions of life, namely, partial loss of vision. The summation of these factors contributes to the development of PTSS.

#### Conclusions

1. The use of the Clinical administered PTSD Scale (CAPS) for screening of post-traumatic stress syndrome presence in combatants suggests suspicion of these changes. For their understanding and interpretation it is necessary to make comparisons with the data of clinical and diagnostic examination.

2. The use of neurotization and psychopathization questionnaire for screening to identify signs of psychological maladaptation with post-traumatic stress syndrome in combatants and with optic trauma completely satisfies the study. The levels of neurotization and psychopathization found clearly demonstrate damages of psychological maladaptation.

**Research prospects.** Further research should be directed to the development of a detailed study of the psychological state of post-traumatic stress syndrome persons.

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