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## THE INFLUENCE OF POST-TRAUMATIC STRESS DISORDERS IN COMBAT CONDITIONS FOR COMBATANTS IN THE CONDITIONS OF WAR IN UKRAINE

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*The **purpose** of our research is to show the influence of post-traumatic stress disorders in combat conditions for combatants in the conditions of war in Ukraine.*

***Methods of the research.** In general, 95 militaries were participated in our research. The place of organizing this stage of the experiment was the Main Military Clinical Hospital (the Center), Kyiv, Ukraine. They were in the age 24-45 years old. At this stage all respondents were included into one experimental group. These militaries were sent for inpatient treatment by the military commissariats of Kyiv to resolve the issue of fitness for military service. All soldiers have been served in the army in the military zone of Ukraine in the south-east of Ukraine (Donetsk, Lugansk and Kherson regions). They all were included by us into experimental group, which was formed by the help of method of randomization. This stage of the experiment was organized in June–August, 2023.*

***Results and their discussion.** Post-traumatic stress disorder of combatants occurs in those cases when a person is exposed to a stressor that goes beyond the scope of ordinary human experience (combat of combatants, a serious*

threat to life or physical integrity, the death of a comrade, injuries or mutilations received of combatants, the killing of others people) and be capable of causing distress to almost everyone. The influence of an extreme stressor leads to the manifestation of post-traumatic stress disorder in the form of the following manifestations: 1. Avoidance – it is the permanent avoidance of stimuli having been associated with the trauma; occurrence of emotional impoverishment; a feeling of indifference to other people. 2. Hyperactivity. 3. Intrusion. A traumatic event by combatants is constantly lost in one of the following ways: there are unexpected feelings that traumatic events are replayed.

**Conclusions.** So, we identified several options for the occurrence of post-traumatic stress disorders in combat conditions for combatants. Acute combat mental trauma. It arises in the rapid and violently changing circumstances of the battle. This trauma was manifested by sharp, but not psychotic, changes in the combatants' mental activity. The wounded and sick noted her subjective suddenness. Prolonged (chronic) combat mental injury. Stress factors that are arisen stretch over time (from several hours to several weeks). That is, there is the accumulation of emotional tension and negative experiences. At the same time, against the background of emotional tension, some combatants felt insecurity, anxiety and fear, while others felt indifference and depression.

**Key words:** post-traumatic stress disorders, combatants' mental activity, acute combat mental trauma, prolonged (chronic) combat mental injury, stress factors.

### Наталія Михальчук, Євген Харченко, Едуард Івашкевич, Ернест Івашкевич, Наталія Хупавцева. Вплив посттравматичного стресового розладу в бойових умовах на учасників бойових дій в умовах війни в Україні

**Мета дослідження** – показати вплив посттравматичних стресових розладів у бойових умовах на учасників бойових дій в умовах війни в Україні.

**Методи дослідження.** У дослідженні взяли участь 95 військових. Місцем проведення цього етапу експерименту став Центральний військовий клінічний госпіталь (Центр), м. Київ, Україна. Вік військових – 24–45 років. На цьому етапі всі респонденти були включені в одну експериментальну групу. Цих військових військові комісаріати Києва направили на стаціонарне лікування для вирішення питання щодо придатності до військової служби. Усі бійці проходили військову службу в зоні військових дій на південному сході України (Донецька, Луганська та Херсонська області). Усі вони були включені нами до експериментальної групи, яка була сформована за допомогою методу рандомізації. Цей етап експерименту було організовано у червні-серпні 2023 р.

**Результати дослідження.** Посттравматичний стресовий розлад учасників бойових дій виникає у тому разі, коли людина піддається впливові стресора, що виходить за межі звичайного людського досвіду (поєдинок в умовах бойових дій, серйозна загроза життю чи фізичній недоторканності, смерть товариша, поранення або каліцтва, отримані учасниками бойових дій, убивства інших людей), які здатні завдати лиха кожному. Показано, що вплив екстремального стресора призводить до прояву посттравматичного стресового розладу у вигляді таких проявів: 1. Уникнення – це постійне уникнення подразників, пов'язаних із травмою; виникнення емоційного збіднення; почуття байдужості до інших людей. 2. Гіперактивність. 3. Інтрюзія. Травматична подія комбатантів постійно втрачається одним із таких способів: виникають несподівані відчуття, що травматичні події відтворюються.

**Ключові слова:** посттравматичні стресові розлади, психічна діяльність учасників бойових дій, гостра бойова психічна травма, пролонгована або затяжна (хронічна) бойова психічна травма, стресові чинники.

### Introduction

The current situation that has been developed in our Ukrainian society, such as the hostilities in our country, which have begun in 2014, require a more meticulous view of doctors, ergo-therapists, psychologists, physiologists and other specialists to the problem of adaptation and rehabilitation of participants in hostilities who return to civilian life. The development of this problem, the study of the characteristics and features of post-traumatic stress disorder of combatants will help preserve the health and working capacity of people exposed to the factors of extreme (combat) situations [12, p. 105–108]. The need to study the psychological changes that occur in the participants of the armed conflict, which is based on generally accepted position about their pronounced psycho-traumatization, which determines the possible development of both mental and psychosomatic pathology. One of the clinical types of com-

bat mental pathology is combat stress disorder, which can occur in combatants after the indefinite period of time after the end of the war (from several months to several decades) [12, p. 109–118].

The main psycho-traumatic impact of war is the rather long stay of servicemen in the special conditions of specific stress, which leaves its negative imprint on the combatants [3]. Long-term exposure to combat operations, as well as their psycho-traumatic nature, emotional and physical overstrain can, in a great degree, contribute to changes in the combatant's mental activity [6]. These pathological changes lead to a decrease in his/her effectiveness as a combat unit, they also affect his/her life activities already in peaceful conditions, leading to severe mental disorders, including post-traumatic stress disorders [9].

The mental manifestations of the general syndrome of the adaptation of the individual we've called "the emotional stress". It is so called affective expe-

riences that accompany stress and lead to adverse changes in the human body. It is the emotional apparatus that is, for the first time, to be included into the sphere of stress reactions under the influence of some extreme factors [11]. So, stress is a state, due to the involvement of different emotions into the structure of any purposeful behavioral act. As a result, vegetative functional systems and their specific endocrine support, which regulates behavioral reactions, are, in a great degree, activated. In this case, when the impossibility of achieving some vital results to overcome a stressful situation is actualized, a state of tension arises, which, in the combination with primary hormonal changes in the internal environment of the body causes a violation of its homeostasis. That is, under some certain circumstances, instead of mobilizing the body to overcome difficulties stress can cause serious disorders [10].

Because of the repeated repetition or with a long duration of affective reactions in the connection with long-term life difficulties, emotional state of the person can take a stable, definite and stationary form. In these cases, even when the situation is adopted by the person or normalized, the constant emotional excitement has not been weakening [4]. Moreover, it constantly activates the basic central formations of the autonomic nervous system of the individual, and through them there was taken a place the state of destabilizes and the activity of internal organs and systems of the person. If some general and specific links in the body are weak, then they become the main ones in the formation of this or that disease [8]. Primary disorders, that take a place during emotional stress in various structures of neurophysiological regulation of the brain, lead to different changes in the normal functioning of the cardiovascular system, gastrointestinal tract, changes in the blood pressure, blood coagulation system, and lead to immune system disorders [1].

As we'll note, if we talk about the conditions of war and the military service the most intense combat stress manifests itself in forms that prevent the implementation of combatants' activities for a relatively long time (more than a day) [5]. The extreme forms of this manifestation are neurotic and psychotic disorders. At the same time, the more servicemen experience the most intense forms of combatants' stress, the more psychological losses there are in the unit, a part. All these factors prevent a high level of the intelligence of combatants [13].

It should be noted that the more intense combatants' stress was experienced by a combatant in a combatants' environment, the more likely they are to

have negative psychological consequences after the cessation of exposure to combatants' stressors [15]. Negative psychological consequences of psychotraumatic combatants' stress are manifested in various forms, such as:

- a feeling of unreality of combatant's own existence;
- loss of the meaning of life;
- emergence of a feeling of approaching catastrophic changes in life, even quick death;
- loss of sense of self-identity, feeling of intrapersonal disintegration;
- experiencing an inexplicable and not always justified sense of being guilty for combatant's actions in the experienced psycho-traumatic situation of combatant's activity or, on the contrary, in an inadequate idealization of these actions;
- inadequate reduction or overestimation of self-esteem;
- sharp and unexpected changes in the perception of the "Self-image" for the combatant himself/herself;
- the emergence of a feeling of helplessness or, on the contrary, in an inadequate subjective reassessment of combatant's abilities to influence the course of events occurring in his/her life;
- a constant desire to rethink combatant's experience in psychotraumatic situations;
- increased emotional sensitivity, sentimentality or, on the contrary, a decrease in emotional sensitivity and avoidance of close emotional contacts with others;
- increase in irritability, temper and aggressiveness in the combatant's behavior;
- psychological isolation;
- the desire to remember constantly what was happened in a psychotraumatic situation or, on the contrary, in the reluctance that something reminds about it;
- increased anxiety or, inadequate to the real situation, neglect of danger;
- increased mental tension and unreasonable vigilance;
- decrease in the emotional background of moods, depression;
- a feeling of alienation from oneself, combatant's felling of lack of love from the side of others, for example relatives and friends;
- suicidal thoughts and suicidal mood;
- the appearance of antisocial tendencies;
- a need of new, rather "sharp" sensations, including those ones, associated with a great risk to life [2; 7; 14; 16].

The **purpose** of our research is to show the influence of post-traumatic stress disorders in combat conditions for combatants in the conditions of war in Ukraine.

### Methods of the research

In general, 95 militaries were participated in our research. The place of organizing this stage of the experiment was the Main Military Clinical Hospital (the Center), Kyiv, Ukraine. They were in the age 24-45 years old. At this stage all respondents were included into one experimental group. These militaries were sent for inpatient treatment by the military commissariats of Kyiv to resolve the issue of fitness for military service. All soldiers have been served in the army in the military zone of Ukraine in the south-east of Ukraine (Donetsk, Lugansk and Kherson regions). They all were included by us into experimental group, which was formed by the help of method of randomization. This stage of the experiment was organized in June–August, 2023.

### Results and their discussion

Post-traumatic stress disorder of combatants occurs in those cases when a person is exposed to a stressor that goes beyond the scope of ordinary human experience (combat of combatants, a serious threat to life or physical integrity, the death of a comrade, injuries or mutilations received of com-

batants, the killing of others people) and be capable of causing distress to almost everyone. The influence of an extreme stressor leads to the manifestation of post-traumatic stress disorder in the form of the following manifestations:

1. **Avoidance** – it is the permanent avoidance of stimuli having been associated with the trauma; occurrence of emotional impoverishment; a feeling of indifference to other people, manifested by at least three of the following disorders:

- a significant decrease in the ability to empathize and emotional closeness with other people;
- the actualization of feelings of alienation from others;
- making an effort to avoid thoughts and feelings related to combat trauma;
- a significant decrease in interest in previously significant types of activity for this person;
- making attempts to avoid any actions or situations capable of stimulating memories of combat trauma;
- loss of the ability to remember important aspects of combat trauma (psychic amnesia);
- the emergence of a feeling of “shortened future” (uncertainty about future career, marriage or life expectancy).

*Avoidance* is displayed by us on Fig. 1.



**Fig. 1. The influence of an extreme stressor leads to the manifestation of Post-traumatic stress disorder in the form of *Avoidance***

For the first group of combatants with Post-traumatic stress disorder it is *Avoidance* that leads the main synonymous series, having been formed on the basis of such stylistically neutral nominal tokens, as permanent avoidance, trauma, a lot of disorders, *anxiety, fright*, a significant decrease in the ability to empathize, *fear-someness*, emotional closeness with other people, *consternation*, the actualization of feelings of alienation from others, *horror; terror*; making an effort to avoid thoughts related to combat trauma, *alarm, panic, fear*; making an effort to avoid feelings related to combat trauma, *uneasiness, phobia, etc.* The results of factor analysis of obtained data are shown in Table 1.

**Post-traumatic stress disorder** is not only the presence of a traumatic event in the past. This event is only a part of the overall picture, an external circumstance that has played its role in the painful process. Psychotraumatic factors of war affect not only their intensity, but also their frequent recurrence: such as injuries follow one after another, so that a person does not have time “to come to the person’s senses”.

Another sign of post-traumatic stress disorder refers to the combatant’s inner world and it is related to the person’s reaction to traumatic events. People

show their reactions in different ways, that is, a tragic event can cause severe trauma to one combatant and hardly touch the psyche of the another one. It is also very important at what moment the event occurs: the same combatant can react differently at different times.

One of the most immediate mental manifestations of post-traumatic stress disorder are strong and relatively short-term emotional experiences. Some of them can be relatively simple, physiological, such as a reaction of fear or panic. Other ones are characterized by more complex manifestations that occur at the psychotic level. Some combatants develop pathological conditions that progress to a neurotic level. On this level there are neurotic reactions that often take a protracted nature.

In post-traumatic stress disorder, the origin of the traumatization of the personality is clearly related to an inexhaustibly difficult experience that goes far beyond the limits of ordinary human experience. War is a situation that puts a person at risk of developing post-traumatic stress disorder.

The influence of an extreme stressor leads to the manifestation of post-traumatic stress disorder in the form of the following second manifestations:

Table 1

**Factor weight of stylistically neutral nominal tokens of lexical unit Avoidance of combatants with Post-traumatic stress disorder**

№	The name of stylistically neutral nominal tokens of lexical unit <i>Avoidance</i>	Factor weight	№	The name of stylistically neutral nominal tokens of lexical unit <i>Avoidance</i>	Factor weight
1	permanent avoidance	0,96	16	fear	0,56
2	trauma	0,95	17	making an effort to avoid feelings related to combat trauma	0,55
3	a lot of disorders	0,92	18	uneasiness	0,54
4	anxiety	0,90	19	phobia	0,52
5	fright	0,86	20	a significant decrease in interest in previously significant types of activity for this person	0,49
6	a significant decrease in the ability to empathize	0,85	21	making attempts to avoid any actions or situations capable of stimulating memories of combat trauma	0,48
7	fearsomeness	0,83	22	loss of the ability to remember important aspects of combat trauma	0,47
8	emotional closeness with other people	0,82	23	jolt	0,45
9	consternation	0,79	24	psychic amnesia	0,43
10	the actualization of feelings of alienation from others	0,68	25	the emergence of a feeling of “shortened future”	0,40
11	horror	0,67	26	hysteria	0,39
12	terror	0,63	27	misgiving	0,38
13	making an effort to avoid thoughts related to combat trauma	0,62	28	uncertainty about future career	0,37
14	alarm	0,59	29	marriage or life expectancy	0,35
15	panic	0,58	30	wobble	0,32

2. **Hyperactivity**, which manifests itself in at least two of the following moments:

- difficulties with concentration of attention, in peacetime and when performing a combat task;
- the excessive reaction to sudden stimuli;
- an increased level of physiological reactivity to events is manifested;
- difficulty falling asleep or surface sleep is observed;
- increased irritability or outbursts of anger appear;
- excessive vigilance is observed.

If the duration of these, primary, symptoms is at least one month, we can talk about the occurrence of post-traumatic stress disorder of combatants.

**Hyperactivity** is shown by us on Fig. 2.

For the second group of combatants with Post-traumatic stress disorder it is **Hyperactivity** that leads the main synonymous series, having been formed on the basis of such stylistically neutral nominal tokens, as difficulties with concentration of attention, difficulties with concentration of attention, when performing a combat task, trauma, fear, *struggle*, the excessive reaction to sudden stimuli, the excessive reaction to each situation, emotional uncloseness with other people, increased level of physiological reactivity to different events, difficulty falling asleep, difficulty surface sleep, increased irritability, outbursts of anger

appear, excessive vigilance, post-traumatic stress disorder, *panic*, the origin of the traumatization of the personality, *anxiety*, etc. The results of factor analysis of obtained data are shown in Table 2.

Unfortunately, the frequency of this disorder in Ukraine is currently very high, considering the war that has been going on for more than nine years. The impression that combatants with post-traumatic stress disorder make on others is difficult to call pleasant, as they appear hostile, withdrawn and rude. It is difficult to talk to them, because it is impossible to reach mutual understanding, as if the conversation takes place in different languages. Quite often, it seems that a combatant with post-traumatic stress disorder treats other civilians with contempt, holds himself defiantly, and devalues others. It is understandable that, in connection with this, combatants suffering from post-traumatic stress disorder find it difficult to settle down and with even greater efforts to hold on to work (after demobilization), especially if we take into account that the usual requirements for work discipline are unacceptable for them. Also, the unfavorable image of these combatants increases due to their addiction to alcohol and narcotic substances. All this contributes to their social rejection, as a result of which combatants are quite often involved in criminal structures.



Fig. 2. The influence of an extreme stressor leads to the manifestation of Post-traumatic stress disorder in the form of **Hyperactivity**

Table 2

**Factor weight of stylistically neutral nominal tokens of lexical unit Hyperactivity of combatants with Post-traumatic stress disorder**

№	The name of stylistically neutral nominal tokens of lexical unit <i>Hyperactivity</i>	Factor weight	№	The name of stylistically neutral nominal tokens of lexical unit <i>Hyperactivity</i>	Factor weight
1	difficulties with concentration of attention	0,87	16	panic	0,55
2	difficulties with concentration of attention, when performing a combat task	0,85	17	the origin of the traumatization of the personality	0,51
3	trauma	0,82	18	anxiety	0,50
4	fear	0,80	19	terrible horror	0,47
5	struggle	0,78	20	human experience	0,44
6	the excessive reaction to sudden stimuli	0,77	21	phobia like a fear	0,42
7	the excessive reaction to each situation	0,76	22	loss of the ability to remember important aspects of combat trauma	0,38
8	emotional uncloseness with other people	0,74	23	misgiving	0,34
9	increased level of physiological reactivity to different events	0,73	24	war is a situation that puts a person at risk of developing post-traumatic stress disorder	0,33
10	difficulty falling asleep	0,70	25	short-term emotional experiences	0,31
11	difficulty surface sleep	0,68	26	fear or panic	0,30
12	increased irritability	0,67	27	combatants develop pathological conditions that progress to a neurotic level	0,28
13	outbursts of anger appear	0,61	28	terror	0,26
14	excessive vigilance	0,60	29	horror	0,25
15	post-traumatic stress disorder	0,57	30	difficulties with concentration of attention, in peacetime	0,24

But subjectively, post-traumatic stress disorder looks somewhat different. These are deeply suffering unfortunate people who are filled with terrible psycho-traumatic memories of the events they experienced; these memories can arise suddenly, in waking life and in a dream, and be uncontrolled by the combatant, which is especially dangerous, because their sleep is already disturbed, and when they manage to fall asleep it is interrupted by terrible dreams. A heavy, depressed mood haunts them constantly. It is reinforced by the impression that most civilians who have not experienced what the combatant has experienced are unable to understand him. It is difficult for them to communicate with their peers for the reason that this communication revives memories from which they would like to be freed.

3. **Intrusion.** A traumatic event by combatants is constantly lost in one of the following ways:

- there are unexpected feelings that traumatic events are replayed, as it were, (aggravation in the memory and experiences of traumatic events, illusions, hallucinations, dissociative episodes), that

they occur both in a state of wakefulness and in a state of alcohol or drug intoxication;

- there are periodic obsessive distressing memories of events that traumatized the serviceman;
- intense psychological distress is manifested under the influence of events that symbolize or resemble moments of traumatic events (anniversary of the event, tragic music, certain colors, etc.);
- periodically recurring nightmare dreams, traumatic events for the serviceman appear.

**Intrusion** is shown by us on Fig. 3.

For the third group of combatants with Post-traumatic stress disorder it is **Intrusion** that leads the main synonymous series, having been formed on the basis of such stylistically neutral nominal tokens, as difficulties with concentration of attention, difficulties with concentration of attention, when performing a combat task, trauma, fear, *struggle*, the excessive reaction to sudden stimuli, the excessive reaction to each situation, emotional uncloseness with other people, increased level of physiological reactivity to different events, difficulty falling asleep, difficulty



**Fig. 3. The influence of an extreme stressor leads to the manifestation of Post-traumatic stress disorder in the form of *Intrusion***

Table 3

**Factor weight of stylistically neutral nominal tokens of lexical unit *Intrusion* of combatants with Post-traumatic stress disorder**

№	The name of stylistically neutral nominal tokens of lexical unit <i>Intrusion</i>	Factor weight	№	The name of stylistically neutral nominal tokens of lexical unit <i>Intrusion</i>	Factor weight
1	unexpected feelings	0,77	16	events that traumatized for the serviceman	0,50
2	aggravation in the memory	0,75	17	fear of certain colors	0,47
3	experiences of traumatic events	0,73	18	anxiety	0,43
4	hallucinations	0,72	19	periodically recurring nightmare dreams	0,42
5	traumatic episodes	0,70	20	traumatic events for the serviceman appear	0,40
6	illusions	0,68	21	phobia like a fear	0,37
7	dissociative episodes	0,67	22	combat trauma	0,36
8	state of wakefulness	0,66	23	misgiving because of	0,34
9	post-traumatic stress disorder	0,63	24	a risk of developing post-traumatic stress disorder	0,33
10	combatants develop pathological conditions that progress to a neurotic level	0,60	25	fear of tragic music	0,31
11	intense psychological distress	0,58	26	fear or panic	0,25
12	trauma is manifested under the influence of events that symbolize or resemble moments of traumatic events	0,57	27	resemble moments of traumatic events	0,24
13	traumatic events	0,55	28	the origin of the traumatization of the personality	0,23
14	anniversary of the event	0,53	29	a state of alcohol or drug intoxication	0,22
15	periodic obsessive distressing memories of events	0,52	30	traumatic events are replayed	0,20



surface sleep, increased irritability, outbursts of anger appear, excessive vigilance, post-traumatic stress disorder, *panic*, the origin of the traumatization of the personality, *anxiety*, etc. The results of factor analysis of obtained data are shown in Table 3.

### Conclusions

So, we identified several options for the occurrence of post-traumatic stress disorders in combat conditions for combatants.

*Acute combat mental trauma.* It arises in the rapid and violently changing circumstances of the battle. This trauma was manifested by sharp, but not psychotic, changes in the combatants' mental activity. The wounded and sick noted her subjective suddenness. Some of the combatants noted that they did not even have time to get scared, and feel pain and fear arose later, when they saw wounds and blood. The emotional states of various wounded combatants were often polar. In some a case, fear,

anxiety, agitation, a sense of hopelessness of the situation were noted, other people feel apathy, that is everything happened as if in a dream, and as if not with them, the phenomenon of depersonalization, looking at oneself as if from the outside manifested itself.

*Prolonged (chronic) combat mental injury.* Stress factors that are arisen stretch over time (from several hours to several weeks). That is, there is the accumulation of emotional tension and negative experiences. Combatants suffering from post-traumatic stress disorders talked about their worries about a possible sudden attack by separatist mercenaries, the upcoming battle, the death of their comrades, fears of exploding on the stretcher, becoming like a sniper's target. At the same time, against the background of emotional tension, some combatants felt insecurity, anxiety and fear, while others felt indifference and depression.

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