

Attention disorders in patients with depression in wartime conditions

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Introduction. The significant increase in the prevalence of depression worldwide, particularly in Ukraine among victims of Russian aggression, as well as the importance but insufficient development of psychological and psychiatric care for patients with psychogenic depression with attention disorders in wartime conditions determine the relevance of this study. These disorders significantly impair patients' quality of life, complicate daily functioning, professional activity, and the ability to cope with the stresses of war, and also create a risk of suicidal behavior. Despite the current level of achievement in psychiatry and psychology, there is an urgent need to improve methods of early diagnosis and develop targeted treatment and rehabilitation programs aimed at overcoming these disorders.

Objective. To identify ways to improve psychological and psychiatric care for patients with depression and attention disorders in wartime conditions by conducting an analytical study of national and foreign literature on these issues.

Materials and methods. A review of the literature on depression with attention disorders, mainly from the last 5 years, was conducted in the international databases PubMed, Google Scholar, Web of Science, and Scopus using methods of systematization, analysis, and generalization by keywords.

Conclusions. The study confirms the significant prevalence of depression with attention disorders among victims of the war in Ukraine, the insufficient development of clinical and psychological aspects, and the need for further study of this problem, as well as the creation of state measures for psychological and psychiatric assistance for these patients.

Keywords: depression, attention disorder, wartime conditions, diagnostics, treatment psychological and psychiatric care

Introduction

Depressive disorders are among the most common mental disorders in the world, significantly affecting a person's emotional state and behavior and accompanied by significant cognitive impairments, including attention disorders [1, 2, 3]. Modern research indicates a significant increase in the prevalence of mental disorders, especially anxiety and depression, among different segments of the Ukrainian population during the war [4, 5, 6]. Prolonged traumatic experience inevitably affects mental health and cognitive functioning, potentially exacerbating existing problems or causing new ones, including attention deficits in individuals with depression [6, 7]. Although the general mechanisms of depression's impact on cognitive functioning have been the subject of numerous studies, and the effects of war on mental health are being actively studied, it is attention disorder in the combination of depression and chronic war stress that require a separate, focused scientific analysis [3, 6, 8, 9, 10, 12]. Impaired concentration, persistence, and attention span in people with depression can significantly limit their ability to learn, work, and effectively

solve everyday tasks, especially their ability to adapt and overcome stress in war [6, 7]. Despite the growing number of studies on the general psychological and psychiatric consequences of the war in Ukraine and the known data on cognitive disorders in depression, the issue of specific attention disorders in people experiencing depression in the context of a protracted military conflict in Ukraine remains insufficiently studied [4, 11, 13]. There is an urgent need for scientific data that would reveal the peculiarities of concentration, volume, persistence, distribution, and shifting of attention in this population group [10, 12]. The results of such a study are critical for providing effective psychological and psychiatric care to victims of depression in war [3, 13].

Purpose of the study

To determine ways to improve psychological and psychiatric care for patients with depression and attention disorders during the war in Ukraine by conducting an analytical study of national and foreign literature on these problems.

To achieve this goal, using analysis, systematization, and generalization, a study of contemporary national and foreign scientific sources over the past 5 years was conducted in the international databases PubMed, Google Scholar, Web of Science, and Scopus using keywords related to the diagnosis of depression with attention disorders, treatment, and rehabilitation of patients with these disorders, particularly in the context of the war in Ukraine. Attention is one of the fundamental mental processes underlying human cognitive activity. It is defined as the focus and concentration of consciousness on certain objects or activities while abstracting from others [14]. This process plays a key role in selecting relevant information from a huge flow of external and internal stimuli, providing an opportunity for its further processing, learning, decision-making, and purposeful behavior. Attention disorders, accordingly, can significantly affect the overall productivity of the cognitive sphere and the adaptive abilities of the individual [8, 10]. The main functions of attention include selection, control, and regulation of activity (maintaining a course of action, overcoming obstacles), as well as ensuring clarity and detail in the perception of objects that are in the focus of consciousness. The effectiveness of these functions depends on the state of the psyche and can be impaired by various factors, including fatigue, stress, and mental disorders such as depression [3, 9]. Studies indicate significant individual differences in attention functioning, which may be related to both personality traits and current mental state [15].

A number of basic properties are used to characterize attention. Concentration is defined as the degree of focus of consciousness on an object or activity, the opposite of which is distraction. Attention span reflects the ability to maintain the necessary level of concentration for a long time, resisting distraction and fatigue [8]. These properties are often impaired in depressive disorders, manifesting themselves in patients' complaints of inability to concentrate [10, 14]. The scope of attention is characterized by the number of objects or elements that can be perceived simultaneously with sufficient clarity and precision, often assessed in experiments with tachistoscopic presentation or using Schulte tables. Attention distribution is the ability to simultaneously focus on several different objects or perform several types of activities. This property is especially important in multitasking conditions, but its effectiveness is limited and depends on the complexity of the tasks and the degree of their automation. The characteristics of concentration, stability, and attention switching are assessed using the Bourdon proofreading test [3, 16]. Attention switching is the conscious and deliberate transfer of attention from one object or activity to another in accordance with the changing demands of the situation. Flexibility and speed of switching are important indicators of the mobility of neural processes and the adaptability of the cognitive system. Difficulties with switching attention may be a sign of rigid thinking or cognitive impairments, which are observed, in particular, in affective disorders [9, 10]. Research indicates a possible link between slow brain activity fluctuations and attention stability/switching in mood disorders [17]. A distinction is made between voluntary (active, purposeful) and involuntary (passive, caused by the novelty or intensity of a stimulus) attention. Voluntary attention requires willpower to initiate and maintain, while involuntary attention occurs automatically. In the context of psychopathology, especially in anxiety and depressive disorders, considerable attention is paid to

the study of the phenomenon of attention bias—the tendency to automatically, often unconsciously, focus attention on negative stimuli in depression and threatening stimuli in anxiety, which is one of the targets of cognitive-behavioral therapy [18, 19, 20]. Thus, attention is a complex, multi-component process that ensures the selectivity and effectiveness of cognitive activity, and concentration, stability, volume, distribution, and switching of attention are important indicators of the state of the cognitive sphere. The study of attention is crucial both for understanding the effective functioning of the psyche and for diagnosing and correcting various disorders, in particular those that arise in depression under the influence of extreme stress factors such as war [3, 13, 21]. Depression is one of the most common mental health disorders in the world and is characterized by a complex set of symptoms that encompass emotional, cognitive, behavioral, and somatic spheres. The key diagnostic features are persistent low mood and/or loss of interest or pleasure in activities (anhedonia) lasting at least two weeks. Changes in appetite and weight, sleep disturbances (insomnia or hypersomnia), psychomotor retardation or agitation, feelings of fatigue and loss of energy, feelings of worthlessness or excessive guilt, difficulty making decisions, and suicidal thoughts are also common. The prevalence of depressive states increases significantly in times of social crisis and military conflict [3, 4, 6, 9, 14]. Patient complaints of “brain fog,” difficulties with thinking, memory, and attention disorders are not simply a consequence of a bad mood, but are considered key components of depressive syndrome, which has its own neurobiological mechanisms and significantly affects the patient's prognosis and functioning [3, 8, 9, 10, 14, 21]. One of the most common cognitive symptoms of depression is impaired concentration and attention span. Patients report an inability to focus on a task for long periods of time, easy distraction by extraneous stimuli, and rapid mental fatigue when trying to concentrate. This can manifest itself in difficulties with reading, working with documents, watching movies, or even during conversation. Objective neuropsychological studies often confirm a decrease in productivity when performing tasks that require sustained attention. Some studies link problems with attention span in mood disorders to the characteristics of slow fluctuations in the brain's bioelectrical activity [8, 10, 14, 17]. Depression is often accompanied by increased distractibility and problems with selective attention—the ability to focus on relevant information and ignore irrelevant stimuli. This can lead to feelings of information overload, difficulty in distinguishing between what is important and what is not, and a general slowing down of cognitive activity. Although the mechanisms behind this are not fully understood, it may be related to a general reduction in cognitive resources or a disruption of inhibitory processes in the central nervous system [9, 22].

Another characteristic cognitive feature of depression is the phenomenon of attention bias, which consists of patients' tendency to unconsciously focus and hold their attention on negatively colored information (sad faces, words with negative connotations). This selectivity of attention to negative stimuli is considered one of the mechanisms that maintain depressed mood and negative thinking. It is assumed that this phenomenon is associated with hyperactivity of the amygdala and impaired regulation by the prefrontal cortex, similar to post-traumatic stress disorder (PTSD). Cognitive interventions aimed at modifying attentional bias show some effectiveness in the treatment of depression and anxiety disorders [18, 20]. Neuroimaging and electrophysiology studies indicate changes in brain function in depression that may underlie cognitive impairments. In particular, changes in the functional connectivity of brain networks are found at rest and during cognitive tasks. The impairments may involve both local functional connectivity of the cortex and interactions between different structures, such as cortico-striatal pathways, which are important for motivation and cognitive control, as in long-COVID [22, 23, 24, 25]. There is also evidence of changes in activity in visual networks in patients with depression, which may affect the processing of visual information and attention to it [23]. Attention disorders have a significant impact on the daily functioning of people with depression. They can lead to reduced work performance, learning difficulties, interpersonal relationship problems, and a general deterioration in quality of life [22, 27]. That is why adequate diagnosis and correction of cognitive symptoms are an important part of comprehensive treatment for depression [28]. In the context of the war in Ukraine, the problem of cognitive impairment in depression is particularly acute. Chronic stress, psychological trauma, and uncertainty about the future are all factors that can not only contribute to the development or exacerbation of depression, but also intensify its negative impact on cognitive functions,

particularly attention [3, 12, 13]. Internally displaced persons (IDPs) and military personnel may be particularly vulnerable [7, 11].

The main method of examining patients with depression and attention disorders is clinical and psychopathological. Diagnosis is carried out in accordance with the ICD-10 criteria for “Mental and behavioral disorders in adults” (F00-09). Additional methods of examination most often include the PHQ-9 (Patient Health Questionnaire-9), the Hospital Anxiety and Depression Scale (HADS), the Hamilton Scale (HAM-21), pathopsychological techniques (Schulte tables, Burdon's proofreading test), etc. An effective means of verifying neurocognitive disorders is the Wechsler Intelligence Scale [3, 21]. Thus, depression is a complex disorder that affects not only the emotional sphere but also significantly impairs cognitive processes, primarily attention. Understanding the clinical manifestations of these disorders and their potential neurobiological mechanisms is a necessary prerequisite for developing effective strategies for diagnosis, treatment, and psychological support for people with depression, especially those affected by war. Therefore, further research in this area is extremely relevant [13, 21].

The full-scale war that has been raging in Ukraine since February 2022 has caused profound and widespread distress for millions of people. This is not only an acute threat to life and safety, but also the prolonged impact of numerous psychotraumatic factors: loss of loved ones, forced displacement, destruction of the usual way of life, economic instability, constant threat to life, uncertainty, and information overload. Such an extreme and prolonged experience inevitably leads to significant mental health consequences for the population [6, 7, 9, 13, 28]. Scientific research and clinical practice in Ukraine show an increase in the prevalence of various mental and behavioral disorders in response to the war. The most common reactions include increased levels of anxiety, depression, PTSD, adjustment disorders, and exacerbation of existing mental disorders [4, 5, 11, 28].

Psychological trauma resulting from direct exposure to violence or witnessing violence becomes a reality for a significant proportion of citizens in wartime and leads to the development and intensification of anxiety and depressive disorders [31]. The mechanisms of this impact are multifaceted: a constant feeling of threat and helplessness can lead to the depletion of adaptive resources; losses (of people, property, social ties, future) are powerful depressogenic factors; disruption of the usual rhythm of life and social isolation, especially among IDPs, undermine the mechanisms of psychological resilience. At the neurobiological level, chronic stress can lead to dysregulation of the hypothalamic-pituitary-adrenal axis and changes in neurotransmitter systems, which also contributes to the development of depression [6, 11, 13]. At the same time, the consequences of war have a direct impact on cognitive functions, particularly attention. Experiencing traumatic events and the constant need to assess threats can lead to hypervigilance (excessive alertness and fixation on potentially dangerous stimuli), which is a form of attention deficit disorder. On the other hand, severe stress, anxiety, and intrusive memories (intrusions), which are characteristic of PTSD and acute stress reactions, can significantly reduce the ability to concentrate and maintain voluntary attention on current activities [10, 31, 32].

Thus, people experiencing depression in wartime conditions face a potential double burden on their attention system. On the one hand, depression itself causes difficulties with concentration, sustained attention, and increased distractibility [8, 10]. On the other hand, the constant background stress of war and possible traumatic experiences further deplete cognitive resources and can specifically shift attention toward threatening information, which can lead to a more pronounced and persistent attention deficit than in “classic” depression outside the context of war [3, 12, 31, 32]. The neurobiological mechanisms of interaction between depression and war-related stress still need to be studied, but it can be assumed that prolonged exposure to both factors leads to persistent changes in the functioning of brain networks that regulate emotions and cognitive control: the prefrontal cortex, amygdala, and hippocampus. This may explain the persistence of cognitive impairments and the difficulty in correcting them in patients in this group [19, 24, 25]. Rumination—the obsessive “replaying” of negative thoughts related to one's own condition,

traumatic events, or anxieties about the future—may play an important role in maintaining attention disorders in depression against the backdrop of war [14, 9]. Such ruminations “capture” a significant portion of cognitive resources, leaving less opportunity for voluntary concentration on external tasks. Negative attentional bias, characteristic of depression, can be exacerbated in wartime conditions, fixing the mind on losses, dangers, and negative predictions [18, 31, 32]. The degree of impact of war on mental health and cognitive functions may vary among different population groups. Particularly vulnerable are individuals who have experienced direct occupation, captivity, loss of loved ones, forced displacement [7], as well as military personnel who have participated in combat operations [11, 30]. The presence of pre-existing mental disorders or somatic diseases may also be a risk factor for more severe consequences [30].

The link between depression and attention disorders is well established in scientific literature. Numerous studies show that people with depression often have objectively measurable difficulties with concentration, persistence, selectivity, and switching attention [8, 9, 10, 14]. Studies of the effects of war, combat, and other extreme events provide compelling evidence of their negative impact on attention. Acute and chronic stress and trauma can lead to hypervigilance, increased distractibility, and difficulties with concentration and executive functions in general [12, 31, 32]. These disorders are part of the clinical picture of acute stress reaction and PTSD, the prevalence of which increases significantly in wartime conditions and is often characterized by specific attention disorders, including difficulty concentrating, hypervigilance, and bias toward threatening stimuli. There is evidence of the involvement of specific neural pathways associated with reward and threat processing systems in the mechanisms of attention distribution disorders in PTSD, which is often comorbid with depression, especially in veterans and other war victims [19, 30, 32]. Studies conducted directly in Ukraine during full-scale war confirm the high prevalence of depressive and anxiety symptoms among the population [4, 5, 31]. A number of studies indicate a direct link between the experience of war and the deterioration of cognitive functions, including attention and memory, in various population groups [3, 12, 13, 31]. Some studies focus on the specifics of cognitive impairment in the context of depression and war distress [7, 10, 31]. Researchers pay particular attention to the mental health and cognitive functioning of military personnel who experience intense combat stress. Studies indicate a high level of comorbidity of PTSD, depression, and anxiety disorders in this group, accompanied by complaints of memory and attention problems [28, 30]. Studies emphasize the link between the intensity of combat experience, the severity of mental symptoms, and the degree of cognitive impairment [10, 11, 30]. Another vulnerable group is IDPs, who face a complex set of stressors related to the loss of their homes, social ties, uncertainty, and difficulties in adapting to a new place. Studies indicate elevated levels of depression and anxiety among IDPs, as well as complaints of attention and memory impairments in this group [7].

The complexity of the clinical picture of depression is exacerbated by the high comorbidity of mental disorders in response to war, as depression often coexists with anxiety disorders, PTSD, adjustment disorders, and sometimes substance abuse. Each of these conditions can contribute to the overall picture of cognitive impairment, particularly attention [30, 33]. The relationship between war stress, depression, and attention can be influenced by a variety of individual factors: level of psychological resilience, effectiveness of coping strategies, availability of social support, and the nature and intensity of traumatic experiences can act as risk factors or, conversely, protective factors [29]. Research into the relationship between depression, war stress, and attention faces certain methodological challenges. It is necessary to take into account the influence of concomitant factors, use reliable and valid instruments to assess both mental state and cognitive functions, and, if possible, conduct longitudinal studies to track the dynamics of these processes [21]. Understanding the complex interaction between depressive disorders, the consequences of war, and cognitive functions is of great practical importance. It is necessary for the development of comprehensive psychological and psychiatric care programs that take into account not only the emotional suffering of patients but also their cognitive difficulties. Combined approaches that combine pharmacotherapy, psychotherapy, and cognitive rehabilitation methods may be effective for individuals with depression and attention disorders in the context of war [27, 28].

Thus, depression, war distress, and attention disorders are closely interrelated phenomena. Existing studies indicate a significant prevalence of these problems in the context of the war in Ukraine and their potentially mutually aggravating effects. Further study of the specific characteristics of attention in individuals with depression who are experiencing war is a relevant scientific and practical task, the results of which may contribute to improving the diagnosis and care of this vulnerable population [2, 3, 13, 34, 35].

Conclusions

There has been a worldwide increase in the prevalence of depression, and in Ukraine in particular, there has been an increase in the number of people suffering from depression caused by the distress of war.

This type of depression not only affects the emotional sphere, but also significantly impairs cognitive processes, especially attention.

The severity of depressive symptoms is associated with a slowing down and decrease in attention span and indicates the specific contribution of the depressive process to the cognitive sphere. At the same time, attention disorders in these patients complicate the clinical picture and course of the depression.

The diagnosis and differential diagnosis of depression with attention disorders is based on the results of clinical and psychopathological examinations, clinical diagnostic scales, pathopsychological studies, laboratory and instrumental methods, the results of examinations by internists, the presence of post-stress, somatogenic, vascular, and other factors, and the dynamics characteristic of these disorders.

In the context of war, there is an urgent need to develop and implement programs for the early diagnosis of depression accompanied by attention disorders, as well as comprehensive and timely measures for their treatment and medical and psychological rehabilitation.

Thus, the study confirms the significant prevalence of depression with attention disorders among victims of war in Ukraine, the insufficient development of clinical and psychological aspects, and the need for further study of this problem, as well as the creation of state measures for psychological and psychiatric assistance for these patients.

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