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## **The war continues not only on the front: a broader look at PTSD in the context of the Russian invasion and its impact on Ukrainian citizens – systematic review**

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## **Abstract**

Russia's aggression against Ukraine is undoubtedly a tragic event that will bring various, often difficult to predict, consequences at many levels of functioning. Certainly, the mental health of war victims faces many challenges. The mental health crisis that occurs during war is a public health problem.<sup>28</sup> One of the main disorders that appear in people directly or indirectly related to war is PTSD. It arises as a result of experiencing extremely dangerous, terrifying events that go beyond one's ability to cope and is manifested by symptoms such as: obsessive, persistent re-experiencing of traumatic events, avoidance of factors causing a "return" to traumatic memories, excessive arousal and a sense of constant threats.<sup>8,10</sup> Many factors influence the occurrence of PTSD. It is extremely important to look at the reasons that make it difficult to obtain support. mental health and improving the support system. Ukrainian children and youth deserve special attention here. A developing young society must face particularly great challenges, and it is their mental well-being that guarantees better development of the entire nation. Every effort must be made to ensure that citizens of a country at war receive adequate support. We have many methods of help, from basic emergency support, through a wide range of psychotherapy, to medications in the most severe cases. Additionally, the knowledge of the existence of a phenomenon such as post-traumatic growth may give hope and motivation to act to people in mental crisis struggling with symptoms of PTSD. However, the war continues and there will be more and more victims struggling with post-traumatic stress disorder (PTSD) and other mental health disorders. We cannot determine at this point how much damage this conflict will cause. However, it is worth acting now to prevent and limit the tragic consequences of the situation in which Ukraine finds itself.

Keywords : PTSD, cPTSD, Ukraine, war, mental health

## **Introduction**

More than two years have passed since the devastating war on Ukrainian territory began in full force. Its impact on the lives of each of us is certainly undeniable. Mental problems related to such a difficult situation will affect both people remaining in Ukraine, those forced to emigrate, those involved in hostilities, and the civilian population. Of Ukraine's 43.7 million inhabitants, the United Nations High Commissioner for Refugees reports that 7.9 million have sought refuge outside their country, while the International Organization for Migration has published information about an additional 6.5 million people who have been internally displaced.<sup>12</sup> An estimated 9.6 million people in Ukraine are at risk of or currently struggling with mental health disorders, with approximately 3.9 million people in this group likely to have moderate to severe symptoms<sup>6</sup>. The most likely mental disorder that may affect Ukrainian citizens is the occurrence of post-traumatic stress disorder (PTSD) and cPTSD. The most vulnerable groups of people have a high prevalence rate of PTSD. Let's not forget about the heredity of trauma: the possibility of its transmission to generations requires looking at the spread of this phenomenon and implementing appropriate actions to minimize the effects of psychological trauma.

## **PTSD and CPTSD**

As ICD-11 says, post-traumatic stress disorder (PTSD) may develop as a result of exposure to an extremely threatening or frightening event or series of events. A patient with PTSD manifests the following symptoms: 1) re-experiencing the traumatic event or events in the present in the form of vivid, intrusive memories, flashbacks or nightmares, occurring through one or more sensory stimuli and usually accompanied by strong or overwhelming emotions, especially fear or terror, and strong physical sensations; 2) avoiding thoughts and memories of the event(s) or avoiding activities, situations, or people that resemble the event(s); 3) a persistent perception of increased current threat, for example as manifested by hypervigilance or an increased startle response to stimuli such as unexpected sounds. The duration of the above-mentioned symptoms is at least several weeks, during which a significant impact on the patient's daily functioning is noticeable. In the context of war, it is also worth mentioning complex post-traumatic stress disorder (complex PTSD), which develops as a result of exposure to an event or a series of events of an exceptionally dangerous or terrifying nature, most often long-term or repeated events, from which escape is difficult or impossible ( e.g. torture, slavery). , genocide campaigns, long-term domestic violence, repeated sexual or physical abuse in childhood). In addition to the criteria for PTSD that must be met in order to make a diagnosis, there are also 1) problems with affect regulation; 2) beliefs about oneself as diminished, defeated, or worthless, accompanied by feelings of shame, guilt, or failure related

to the traumatic event; and 3) difficulty maintaining relationships and feeling close to others<sup>8-10</sup>.

### **It all started in 2014**

The war didn't start 2 years ago. In March 2014, Russia annexed Crimea. More than 1.5 million people in these regions have been displaced from their homes. Without a doubt, these are people who, as a result of their experiences, also struggle with mental problems. The dysfunctions mentioned include: symptoms of depression, symptoms of anxiety, and a significant level of somatization. It is also worth taking a closer look at alcohol consumption: potentially risky drinking has been observed among both women and men. The incidence of PTSD among Ukrainian citizens in 2016 was almost 7 times higher than the incidence of this disorder in other countries<sup>2</sup>. A few years later, in 2022, the war escalated to a full-blown armed conflict. It has resulted in the displacement of almost 6.5 million people within its borders, and another 3.2 million have fled the country. To update the statistics, post-traumatic stress disorder (PTSD) and other mental disorders affect at least one in three refugees. The prevalence of PTSD among refugees and asylum seekers was 31.46%.

### **Included variables**

People's immunity can vary depending on many factors. They can have both positive and negative effects on the occurrence of PTSD. Factors influencing the occurrence of trauma include: previous traumatic experiences, individual level of pathology, personality traits, coping with avoidance and sociodemographic characteristics (place of residence, having health insurance), loss of a loved one, gender, continuing education.<sup>28,31</sup> Unexpected death of a loved one is the most common traumatic experience in the world and is a predictor of a higher risk of PTSD.<sup>31</sup> Women, older people, forcibly displaced people, and people from geographical regions under Russian occupation scored higher on symptoms of post-traumatic stress disorder (PTSD).<sup>28,29,30</sup> For women, there are certain types of traumatic events that affect them more often, especially in times of war, e.g. sexual abuse, reproductive sexual abuse and child sexual abuse, killing, injuring or abandoning children.<sup>28,30</sup> Avoidance coping is very closely related to low levels of situational control, which negatively affects health mental. Additionally, higher rates of fear, stress, and anxiety have been reported when using this strategy.<sup>28</sup> Trauma-preventing characteristics include higher well-being, higher individual resilience, being male, and living in a city. The city is a place where it is much easier to obtain support due to the greater availability of all support institutions.<sup>31</sup> The severity of PTSD symptoms will also vary. There is a positive correlation with the respondents' level of exposure to war and sense of threat, and a negative correlation with well-being, family income and age<sup>1</sup>. For civilians, a lack of experience or sufficient psychological resources to mitigate the effects of war may lead to an increased tendency to perceive or recall life-threatening experiences, resulting in a greater risk of post-traumatic psychopathology. Even people who find a safe home outside war zones are exposed to war-related stress, including exposure to news and concerns about family members who still live in the conflict area, are actively involved in the war, or have lost them.

### **Barriers to mental health**

While the commitment to helping Ukrainian citizens has been and is at a very high level, the focus on mental health has remained limited. Societies tend to relegate aspects of psychiatry

and psychology to the background. There is a culture of separating the psyche from the soma. In reality, however, the degree of comfort in a person's internal life translates into his or her physical well-being and vice versa. It is worth focusing more attention on these aspects to improve the quality of assistance provided. High levels of disability due to post-traumatic stress, anxiety and depression suggest that these conditions are the most common disabling health problem for refugees requiring attention. If this is a noticeably important problem, where may the obstacles limiting the scope of psychological and psychiatric help come from? Several observed factors can be mentioned. One of them is certainly the lack of knowledge about mental illnesses affecting victims of traumatic events on the part of people providing help.<sup>5</sup> Lack of education from an early age, taming people, learning an attitude of acceptance towards sick people builds a wall between healthy and sick people, which only worsens the condition of people affected by, among others, post-traumatic stress disorder, depression, anxiety. The invisibility of mental illness also increases feelings of isolation and alienation among social groups. The feeling of stigmatization and loneliness among refugees and their families, the loss of a sense of belonging and the awareness of the lack of stability and security certainly make it difficult to seek help. Also, lack of resources and skills in coping with difficulties, personal predispositions and mental resilience may hinder recovery.<sup>5</sup> Paradoxically, it is the people with the fewest resources to cope with their illness or dysfunction who may have the greatest difficulty finding help. It is also disturbing how many Ukrainians do not want to seek help. They may suppress their traumatic experiences out of shame and fear, which prevents them from working to integrate the experience of war and only worsens the symptoms of resulting mental disorders.<sup>28,30</sup> Men may be particularly affected by such behaviors due to social and cultural conditions. The context that results in the display of emotions is treated as a weakness. This can lead to the development of addictions, eating disorders, anxiety disorders and obsessive-compulsive disorder (OCD). Men involved in conflicts may show increased aggressiveness, irritability and antisocial behavior, which will actually be a sign of depression, but due to the discrepancy with the typical symptoms of this disease it will go completely unnoticed.<sup>30</sup> There is also a phenomenon called "survivor's guilt". People who are currently safe in a war situation and whose loved ones are in some way exposed to the consequences of war may suffer because they feel guilty for leaving their husbands, partners and parents in a war-torn country and moving to a safe haven. This sense of guilt does not make it easier to work on the trauma, and it deepens, among other things, the feeling of guilt.<sup>32</sup> Another important barrier is certainly difference in the languages we speak. In the case of somatic diseases, we are able to somehow overcome limited communication capabilities and communicate to a limited extent, getting to the heart of the patient's problem, while when it comes to help requiring an in-depth conversation, this is a barrier that makes working with the patient practically impossible. For non-Ukrainian-speaking emergency responders, reliable access to interpreters, especially in areas with the highest refugee populations, can be a challenge. Another important aspect that poses great difficulties is the healthcare system itself. Insufficient access to trauma specialists who are fluent in the culture and language of refugees may be the reason that even those seeking help may not receive it.<sup>5</sup> The lack of an appropriate specialist may worsen the condition of a person requiring the intervention of a doctor, psychologist or psychotherapist.

### **Socio-demographic factors**

Some people in war-torn areas will certainly be forced to change their place of residence temporarily, and in some cases even permanently. This situation affects mental health. It is worth taking a look at what factors may influence the occurrence of mental disorders or

protect against their occurrence, depending on when they occurred. Negative factors preceding displacement certainly include: persecution or fear of persecution, experiencing or witnessing violence or fighting, loss of family or community members, disruption of family/community life, child in the care of a parent with poor mental health. Factors that may have a protective effect here are: faith in the community, planned departure and escape from the community, family survival and cohesion. During displacement, factors detrimental to mental health may include: long and arduous journeys, shortages (food, housing, education), continued exposure to violence and exploitation (including sexual abuse), and detention en route to resettlement countries. Of protective importance are: travel supported by aid organizations, often associated with faster access to safe places and flights, kinship/child under the care of parents/close ones, constant contact with supportive family and friends, e.g. by phone, social networking sites. Refugees are still at risk of developing post-traumatic stress disorder upon arrival in a new, unaffected place. These risks are compounded by: constant movement to the host country with indefinite accommodation, economic hardship, legal uncertainty that may result in threatened or actual deportation, long delays in processing asylum applications, detention, age disputes in which minors approaching one year of age life, are classified as adults and have access only to adult services, social isolation, long periods of work ban/unemployment, lack of language skills and poverty, persecution and racism, intra-family tensions, conflicts and poor parenting. Factors that can offset the effects of trauma and have a positive impact on the mental health of displaced persons include: negotiated entry into the country of resettlement, rapid processing of asylum applications, settlement in a neighborhood with high ethnic/linguistic density, family connections/the child is under the care of parents/ loved ones, constant contact with family, including over the phone, on social networking sites, children effectively negotiate, among others, their “bicultural” and bilingual identity, timely and supported access to services. health, social welfare organizations, sense of belonging to the country of resettlement<sup>7</sup>. Considering the number of variables affecting the health of resettled people, the severity of mental disorders will certainly also depend on whether the war forced the people concerned to change their place of residence. The statistics cited earlier show how many people had to leave their homes. Internally displaced persons have a higher incidence of post-traumatic stress disorder compared to non-displaced persons. No significant differences in PTSD were found between people resettled to Ukraine compared to those who left their country as a result of the invasion. Therefore, it can be concluded that even evacuation from destroyed or besieged cities to other parts of Ukraine results in mental problems (i.e. PTSD symptoms)<sup>3-4</sup>. Among people who settled in other countries, longer settlement times were associated with lower rates of PTSD and depression. However there are also studies which tell us, in the first years of resettlement, increasing in the case of post-traumatic stress disorder (PTSD) is a main mental problem, but after more than 5 years of resettlement, the incidence of depressive and anxiety starts to raise to a greater extent.<sup>11</sup> It is also worth noting that people living in cities showed lower rates of PTSD symptoms. This is most likely due to a lower sense of alienation, a greater sense of security and greater accessibility to help centers<sup>3-4</sup>. Life in cities can be closer to normal, which helps reduce the symptoms of PTSD and other mental disorders.



## **Mental health of Ukrainian children and adolescents**

Young generations affected by the war will have to face many problems from their early years. Social security theory tells us that cognitive schemas for social security develop during childhood and adolescence in connection with the child's evaluation of himself, the social world, and the anticipated future. The actual situations a child encounters (for example, exposure to violence), as well as the meanings and narratives that people (here parents play a major role) attach to such events, shape the child's perception of the world and reality. Violence against children in armed conflicts is a threat to lasting peace, security and development. Military aggression is a violation of fundamental human rights, which also apply to children.<sup>11</sup> This will certainly have long-term effects in terms of their mental health and functioning in adult life. It is worth taking a look at the external factors that contribute to the dysfunctions to which children and adolescents are exposed. First of all, it is worth mentioning somatic diseases, the treatment of which is difficult due to problems in the health system, which was/is not able to cope with the additional burden on children's health caused by the war. As a result of the outbreak of the war, many children had to seek shelter in a place other than home. They had to hide for a long time in crowded, cold and unventilated rooms. Such conditions are certainly unsuitable for human habitation, they cause the spread of diseases and infections that cannot be treated due to the dysfunctional health care system, which certainly affects on well-being. The very fact of staying in such conditions is a factor contributing to the development of mental disorders in the future. Another very important factor with the potential to traumatize is separation from loved ones: tens of thousands of families have been separated and many children migrate unaccompanied for various reasons.<sup>14</sup> However, protecting your closest relationships from falling apart does not guarantee maintaining your mental health. Family dynamics that are exposed to war can change and have a negative impact on youth development. Adolescents may be burdened with responsibilities such as caring for younger siblings and caregivers suffering from mental or physical disorders. Therefore, a very harmful phenomenon of parentification occurs. There is no support from trusted adults and the environment is unstable, which results in the compulsion to become an "adult" too early in the skin of a teenager.<sup>13</sup> Witnessing directly or indirectly the destruction of communities, the death of family members and friends, and exposure to warfare such as bombings have a destabilizing effect on the mental health of children and adolescents. This puts them in a permanent sense of life-threatening condition. Blocking education is another aspect with a very destructive effect. Children and adolescents are "frozen" in their current state of development, they do not have the opportunity to acquire competences that would certainly have a positive impact on the integration of traumatic events that affect them, which would have positive effects on their further lives.<sup>14</sup> The effect of exposure to cumulative traumatic events and losses will certainly will mean that the risk of developing conditions such as post-traumatic stress disorder, severe depression (which in the worst case may even be associated with suicidal tendencies) and anxiety will certainly appear to a much greater extent than before.<sup>7,12</sup> The incidence of PTSD in the group adolescents may reach up to 40%. Other serious disorders such as psychosis can occur as a result of the extreme stress caused by traumatic events. There are also reports of "pervasive refusal" (resignation syndrome) in children seeking asylum. This is a syndrome that can even pose a

threat to the child's life, because the symptoms include stopping eating and drinking.<sup>7</sup> In addition, children exposed to war and flight may develop, among others: specific fears, dependent behaviors, prolonged uncontrollable crying, lack of interest in the surroundings and psychosomatic symptoms, as well as aggressive behavior. Morbid topics may also begin to appear during play, fantasy play will be limited, and the child will show social withdrawal.<sup>11</sup> Some young people with these serious disorders may require top-level interventions such as hospital care. Unfortunately, the child's developing brain may not develop properly and in the long term, and when returning to normal life, symptoms of induced neurodevelopmental disorders, such as ADHD, may appear.<sup>7</sup> When it comes to PTSD, the factors influencing its occurrence are very diverse. . There is a tendency for factors that are related to the subjective experience of events and post-traumatic events to be more aggravating. Such factors include: low social support, perceived threat to life, social withdrawal, poor family functioning and thought suppression. This calls for special attention to be paid to long-term care for adolescents who have already experienced potentially traumatic events. According to the collected statistics on children and adolescents, refugees and asylum seekers, the incidence of PTSD was 22.7% and depression was 13.8%. % and anxiety disorders in 15.8%.<sup>11</sup> Additionally, based on the analysis of a study conducted in 2016/17 among young people living in war zones at that time, the risk of PTSD in teenagers who were victims of violence was over 4 times higher. The incidence of witnessing killing, injuring or intimidating civilians was over 3 times greater and the loss of social support network was almost 5 times greater. The above-mentioned study also found increased levels of anxiety and depression among teenagers living in the region outside the armed conflict. The reasons for such trends may be fears of the spread of hostilities to the regions they inhabit, concerns for the safety of friends or relatives, and information provided in the mass media.<sup>13</sup> The trends of 2016/17 are able to show us what may be probable dynamics of the development of mental disorders among societies that are currently exposed directly or indirectly to war. Tracking these trends can help us improve prevention activities and help such an important social group as Ukrainian children and youth.

## **Ways to help**

When it comes to helping war victims, multi-level action is extremely important. To reduce stress, provide safe areas and shelters, and restore protective factors, adequate humanitarian assistance must be provided: access to basic services and safety from direct harm, provision of food, shelter, water and basic health care. Poorer mental health outcomes are observed among refugees staying in care facilities where sanitary conditions are not the best, so it is worth ensuring appropriate infrastructure in the context of long-term care. Psychological first aid is also a very important element here, aimed at preventing/mitigating the effects of already existing trauma. It consists of eight core factors: contact and engagement, safety and comfort, stabilization, information gathering, practical help, connection to social support, information about coping support and links to collaborative services.<sup>11</sup> It is worth focusing on staff/volunteer training etc. .. who come into contact with war victims in order to provide



basic help and support to people affected by trauma. These people can be trained to recognize common signs of the psychological consequences of trauma that require attention. Such training should also include guidance on what not to do, including pressuring refugees to reveal details of their traumatic experiences. From the point of view of knowledge about trauma, it is very important to rebuild some normality in this absolutely non-standard situation. Psychiatrists with more experience in trauma treatment could be available to those particularly in need of consultation and pharmacological treatment. An interesting initiative would be the support of Ukrainians themselves. The same social group sharing their experiences and support will certainly build a sense of belonging and uplift the spirit.<sup>28</sup> Creative forms of support also have a very positive impact. Mindful dance and body-based movement and art therapies have a positive impact on mental well-being. They soothe and support the regulation of the nervous system, help you focus on less stressful factors affecting your life and can be a form of expression that will help you integrate and work through traumatic events.<sup>5</sup> Children are a particularly important social group whose mental health is worth taking care of. Detection through appropriate assessment and subsequent treatment of mental health problems among children and adolescents should be a priority to prevent the spread of mental illness as a result of war among subsequent generations. Taking care of this issue also involves taking care of the parents' mental health. Studies have shown that parents who are more exposed to war show less warmth and more severity towards their children. Emotional sensitivity and regulation, attachment style, and PTSD symptoms in mothers are major moderators between trauma exposure and mental health consequences for their preschool children. There is a need to break this cycle of repeating trauma by providing parents with appropriate tools to support their children.<sup>11</sup> Patients with existing psychiatric diagnoses may need more complex, long-term and professional help. The basic, recognized method of treating post-traumatic stress disorder (PTSD) is psychotherapy. It is a long-term treatment with proven effectiveness, including: in the form of reconstruction of the structures of the nervous system, improvement of the quality of life of patients, disappearance/significant alleviation of the symptoms of the above-mentioned disease classified in ICD-11. Such therapy should be conducted by a certified, suitably qualified psychotherapist, and its duration will vary depending on the type of therapy chosen by the patient. The method of choice for patients with PTSD is cognitive-behavioral therapy. As part of it, two basic protocols for working with trauma were developed. The first: the prolonged exposure protocol is more popular than the cognitive processing therapy protocol. The way both protocols work is similar and involves prolonged exposure and confrontation with safe but anxiety-provoking situations, images and memories. The patient is exposed in vivo to situations and stimuli that cause fear or avoidance; these exposures are prolonged and patients replay the memory of the trauma in their imagination. There is a restructuring of beliefs related to the traumatic experience. The aim of the therapy is to reduce (or preferably eliminate in the patient) anxiety and stress reactions to memories that previously caused symptoms of PTSD. After effective desensitization, the patient should be able to return to traumatic memories in a neutral way, without the release of strong emotions. The activity of the amygdala (the so-called "emotion store") is reduced. Another very interesting therapy dedicated to the treatment of PTSD is EMDR (Eye Movement Desensitization and

Reprocessing) therapy. The exact mechanism of its action is not fully explained, but numerous studies have confirmed its effectiveness in the treatment of trauma.<sup>17</sup> Technically, this method involves recalling a painful memory, focusing attention on the emotions/reactions and thoughts that this memory evokes, and simultaneous alternating stimulation of both cerebral hemispheres, most often through eye movement.<sup>19</sup> Psychodynamic psychotherapy in two models is also an available option for the treatment of trauma. One of these models applies strictly to a traumatic event, and the other to long-term traumatic experiences that affect the patient in his childhood. For the second model, it will more often be used in the context of complex PTSD (cPTSD). The aim of psychodynamic therapy is to analyze internal conflicts, defense mechanisms that the patient uses to ignore desires, feelings and impulses, as well as attachment patterns occurring before and after the trauma. If a patient with PTSD needs to develop interpersonally and his goal is to overcome conflicts regarding development and existence, humanistic therapy is also available. Particular attention is paid to creating a safe, empathetic atmosphere in the office. During such therapy, the patient will give meaning to the experiences that have happened to him in life. In the context of PTSD in the humanistic trend, this will specifically be present-centered therapy (PCT). The last available psychotherapy method for treating PTSD is therapy based on the polyvagal theory. This theory assumes the occurrence of dysfunction of the vagus nerve, the only cranial nerve containing fibers of the parasympathetic system, as a result of traumatic events that happened to a given person. As a result of this dysfunction, we have a predominance of reactions from the sympathetic nervous system, such as changes in heart rate and weakening of the functioning of the striated muscles of the face and head. During therapy, the client is taught how to recognize individual states of activation of the vagus nerve (there are three of them), the triggers for activating each of these states of arousal and the methods of switching between them in order to achieve balance.<sup>17</sup> In the context of treating trauma with psychotherapy, it is worth mentioning here: project implemented in Ukraine since March 2022 called TF-CBT: "Trauma-focused cognitive-behavioral therapy." It includes 12-16 weekly 90-minute meetings for children and adolescents, optionally with guardians. In TF-CBT, we can distinguish three phases of treatment: stabilization and skill building (sessions 1–4), then exposure and cognitive processing of trauma (sessions 5–8), and the last phase is supporting safety and future development (sessions 9–12). Psychotherapists participating in the above-mentioned project were trained appropriately to work with patients. The training covered topics such as trauma and PTSD assessment, additional assessments related to treatment, caregiver involvement in TF-CBT, strategies for implementing TF-CBT for ongoing trauma, and grief following trauma.<sup>18</sup> This is a very important, hopefully fruitful initiative to help victims of PTSD. Some patients affected by war-related mental problems will develop symptoms so intense that drug therapy will be necessary. The first-line treatment is drugs from the SSRI group (selective serotonin reuptake inhibitors). Preparations such as sertraline, paroxetine, fluoxetine are effective.<sup>15,16</sup> Vortioxetine, also an SSRI, may also be a promising option, especially because of its positive effects on attention and memory.<sup>16</sup> To sum up, we have many therapeutic options in the context of PTSD treatment, but it is a complex, long-lasting treatment that requires enormous commitment on the part of the patient, especially when it comes to psychotherapy. Nevertheless, involvement in the recovery process will certainly bring positive

results and will be able to help sick people return to normal, healthy functioning, not significantly burdened by the symptoms of post-traumatic stress disorder.

### **Post-traumatic growth**

When talking about PTSD, it is also worth mentioning one of the positive effects of coping with the occurrence of trauma, called PTG: post-traumatic growth. This is quite a young concept, created in the mid-1990s as a concept of positive psychology. PTG defines the positive psychological changes that are experienced as a result of a traumatic life event, resulting in reaching a higher level of functioning.<sup>24</sup> In the context of overwhelming mental problems due to war, the ability to transform difficult experiences into something that will have a developmental impact on our lives is extremely important and hopeful. The Post-Traumatic Growth Inventory (PTGI) was created, which contains factors that classify post-traumatic growth. These are: new opportunities, relating to others, personal strength, spiritual change and appreciation of life. This inventory is a useful tool in determining how individuals effectively cope with the effects of trauma by reconstructing or strengthening their perception of themselves, others, and the meaning of the events in which they participated/witnessed.<sup>21,24,25,26,27</sup> People who experienced PTG "lived", integrated and reformulated their experiences, which allowed them to recognize the potential benefits of surviving the trauma. New values appeared in the lives of these people, the relationships they built were much more deep and nourishing, even though sometimes more difficult to obtain. There were new opportunities on the horizon, life was more appreciated, and there was a spiritual change. This "use" of trauma can build greater resistance to difficult events in the future, reduce feelings of anxiety when exposed to trauma, and prevent suicidal thoughts and actions.<sup>22,23</sup> Various evidence suggests that women may benefit more than men in the context of PTG.<sup>20,21</sup> This may be due to the fact that women are able to derive more satisfaction from good, close relationships than men and make better use of social support. Another interesting group that may experience many positive effects from a PTG experience is teenagers. Post-traumatic growth, which occurs simultaneously with the formation of a young person, can help build self-esteem, drive academic achievements on many levels, and even lead to redefining and reevaluating life in harmony with oneself.<sup>26</sup> Another social group worth discussing are people who have previously experienced trauma, for whom the experience of war is not the first difficult experience. Such people may have learned coping strategies earlier, making them less likely to experience negative reactions and better able to cope with the current situation. Individuals may have a better ability to predict in advance the negative effects of difficult experiences, such as the appearance of intrusive thoughts, and they will be able to more easily adapt and "pacify" the state of hypervigilance occurring in trauma, which so exhausts the body. Such competencies effectively "separate" the symptoms of sympathetic activation from excessive emotional reaction in people who have already experienced such symptoms in the past. Experiencing traumatic events in the past may also protect against excessive self-confidence in the context of the ease of coping with difficult experiences. These people may have a lot of healthy humility towards the unpredictability and brutality of

life, which can be a potential source of strength to cope. The phenomenon of the agency of hope also has a lot in common with PTG: it is based on the protective significance of the knowledge gained from one's own experiences that one can overcome difficult events, emerge from them unscathed, and even use them as a potential for growth in life. An important aspect of people who experience traumatic events again in their lives is a better ability to draw personal strength from supportive relationships with other people compared to people who have been affected by trauma for the first time.<sup>20</sup> People with difficult experiences are most likely much more aware of the importance of interpersonal relationships for mental health. It is worth remembering that traumatic events in themselves are not enough to cause PTG. For the much-desired growth to occur, the individual must reflect on the experience and seek meaning in it. Positive life changes will result from the integration of trauma and a completely new sense of the world.<sup>27</sup> Unfortunately, there are many factors that may make it difficult to achieve PTG, such as character traits, lack of social support, or an individual's attachment style.<sup>23</sup> However, long-term work and involvement in therapeutic processes certainly pay off and in many cases can bring very satisfactory results.

## **Conclusion**

Russia's military aggression is having a huge, devastating impact on the mental health of Ukrainians. Rates of PTSD, depression, anxiety disorders and other mental health problems have increased significantly. It is also worth noting that the war in Ukraine is still ongoing, all currently available statistics on the mental health of people directly or indirectly involved in the war or witnessing it are subject to constant changes and modifications, and we will be able to assess the final effects of this invasion only long after it has ended. . Therefore, it is very important to pay attention to this problem and conduct further observations and research in this direction. However, this does not change the fact that we can influence these statistics now and all forms of help that reach victims experiencing mental crises are worth their weight in gold. After learning about the factors that modify the risk of problems such as post-traumatic stress syndrome, we can influence at least some of them, thanks to which we could implement appropriate preventive actions, such as improving social conditions, creating support groups, improving access to education, etc. Every effort should also be made to ensure that appropriate, professional treatment reaches those who need more advanced help. We have a lot of power to make the lives of Ukrainian citizens better, let's not neglect this problem.

## **Author contribution**

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