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Veterans suffering from post-traumatic stress disorder – literature analyzing: symptoms, statistics and therapies

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ABSTRACT

Introduction: Post-traumatic stress disorder (PTSD) is a condition that affects 10-20% of people who will experience a serious mental injury in their lives. Soldiers are one of the most vulnerable social groups to develop PTSD as they reach several factors which may induce the PTSD.
The aim of the study: The purpose of this work was to find literature on PTSD among people in the military service.
Material and method: Literature has been found and selected among articles found in the websides such as PubMed and Google Scholar.

Description of the state of knowledge: Literature describes both - factors predisposing to PTSD, and describtions of numerous methods of therapy for soldiers such as cognitive behavioral therapy (CBT), eye movement desensitization and reprocessing (EMDR), cognitive processing therapy (CPT) and Exposure Therapy. In addition, the literature provides many innovative methods to help combat the PTSD. It is important not only to inform the soldier about the therapy, but also to enable him to undergo it regularly. It is worth mentioning, for example, video to home - VTH, which is an extension of Exposure Therapy. Thanks to it, even if someone for some reason cannot participate in therapy in the place where it takes place, it can be done at home without fear of getting to the therapy.
Summary: There are many methods of PTSD therapy. In addition to pharmacological, psychotherapy is very important. Soldiers should undergo these therapies and should be encouraged to complete cycles so that they can feel the effects of the therapy.

Key words: post-traumatic stress disorder, veterans, military service, therapy;

Introduction

Post-traumatic stress disorder is an underestimated disease that occurs in people who have experienced traumatic events affecting their lives. These are events that evoke strong action, fear and are beyond ordinary human experience. PTSD can experience a person under stress in terms of life or health threat, but also when he learns about the death of a loved one, as well as when he is witnessing a dramatic event, e.g. risk foreign person's life. These may include: diagnosis of a serious illness, participation in a war or survival or witnessing a serious accident, terrorist attack or kidnapping [1].

It is estimated that one in every third person suffers from serious mental trauma, while about 10-20% of them suffer from PTSD, which is 3-6% of the population [2].

Despite the fact that people read and listen about how others react to a traumatic situation, when they find themselves in such a situation, they are unable to cope with it. People think that they have experienced extreme bad luck, find themselves in the wrong place at the wrong time, and the event itself should never take place. After traumas, most people experience stress, the effects of which can last up to 6 weeks, but in a certain group of people within 6 months there is a significant change in behavior, which can be the beginning of post-traumatic stress disorder.

The severity of the stressor significantly affects the incidence of post-traumatic stress. The more traumatic the experience, the more likely it is to occur. Less dramatic events that last for a long time can have a similar effect. Victims of torture or sadism in prison, people subjected to constant physical or sexual abuse in the family, may also have symptoms of post-traumatic stress. PTSD affects both intentional and unintentional perpetrators. The perpetrator of a car accident whose trauma is understandable can experience the syndrome, but also people who commit the crime they are preparing for. An extreme example is the killer who seemed to kill "mentally easier". He did not expect how he would experience it later. He decided on this act, but the experiences he subsequently began to experience did not allow him to function in the way he was. An example here may also be soldiers who know the objectives of their missions, know what awaits them in war, and prepare themselves physically and mentally, but often become victims of PTSD [3].

There can be many causes of post-traumatic stress, each patient develops differently depending on how the patient experiences trauma, how he cope with it, whether he has support and whether he is looking for help. Permanent PTSD is also described, mainly concerning victims of fires and armed conflicts in which the disaster left permanent marks on the body in the form of visible scars. This underlines the complexity of traumatic factors - the trauma of the event itself, the difficult, painful period of hospitalization and the persistent confrontation with the social environment regarding visible differences [4].

After dramatic experiences, recurrences of memories force patients to think about what happened, they analyze the situation, accurately reconstruct in memory, try to understand it and prevent it from occurring in the future. The occurring constant "being alert" accelerates the reaction in case of such a repetition, and avoidance behaviors and numbness stop the continuous experiencing of events, preventing excessive physical and mental exhaustion.

Memories maintain a high level of adrenaline in the body, which causes a feeling of tension, irritation and does not allow to relax and fall asleep. Stress hormone levels can stop the processing of memories of an event, creating in return constant recurrences of memories and nightmares.

Typical symptoms are episodes of repetitive re-injury in intrusive memories (reminiscences) or in dreams. These symptoms occur against the background of persistent feelings of numbness and emotional stupor, isolation from other people, non-reaction to the environment, anhedonia and avoidance of actions and situations that could resemble a trauma. Frequent are the fear of memories reminding the patient of trauma, leading to their avoidance. Sometimes there may be dramatic, sharp outbursts of fear, panic or aggression, triggered by stimuli that cause a sudden recollection or reliving of a traumatic situation or initial reaction to this situation. Usually there is a state of excessive stimulation of the autonomic system with increased wakefulness, increased orientation reflex and insomnia. Anxiety and depression often co-occur with the above symptoms and signs, and are often accompanied by suicidal thoughts [5, 6].

The course is undulating, changing, variable. In most cases, the symptoms disappear completely. In a small percentage of people, the disorder may be chronic, long-term, with the transition to a permanent personality change [7]. Predisposing factors (including specific personality traits, previous neurotic decompensation) may lower the response threshold when this syndrome occurs or exacerbate the course of disorders. However, they are neither necessary nor sufficient to explain its origin. With PTSD symptoms usually co-occur secondary or associated symptoms, which are part of a broader, more complex clinical picture. These include most often: depression or dysthymia, addiction to psychoactive substances and somatization. About 60-80% of patients with PTSD symptoms abuse or are addicted to alcohol, drugs or medication. This is especially true for women.

Materials and methods

Using websites such as PubMed and Google Scholar, articles on PTSD, epidemiology, statistics, as well as the latest research results on therapies used to treat PTSD were searched.

Posttraumatic Stress Disorder in military service

The experience of war undoubtedly provides numerous events that predispose to post-traumatic stress disorder. The aggressive nature of the actions, their unpredictability, lack of control and confrontation with their own death and comrades-in-arms are just some of the stressors [7]. In one study of soldiers returning from Iraq, 95% of soldiers said they had experienced a view of dead human bodies or body parts, 93% were shooted, 89% were attacked or ran into an ambush, 77% directed fire at the enemy, and 48 % were responsible for human death [8].

Still, not all soldiers develop symptoms that may indicate PTSD. The consequences of traumatic events are modified by a number of factors occurring in the pre-traumatic period, during the events themselves and in the post-traumatic period.

The most important predisposing factors for PTSD are: female sex, past anxiety disorder and past trauma. Young age is also an important factor in the case of war, and young men participate in it most often [9].

As it is known, low-intensity stimuli that act for a long time can have similar effects to short-time, highly stressful events. Therefore, when determining PTSD risk, one should take into account the mild but continuous daily stressors on the mission, as well as the dramatic events of the war. Those from the first group are physical, cognitive, emotional and social stressors typical of the mission in Iraq or Afghanistan.

High or low temperature enhanced by uniforms, lack of air conditioning in vehicles and the need to close windows are examples of physical factors. The next ones are: dehydration, excessive humidity and dust, which limits visibility, hinders breathing and maintaining hygiene. Sleep deprivation, high noise levels caused by explosions, shots, screams and unpleasant smells, mainly of human remains, are also very stimulating stimuli [10].

The most common cognitive stressors include: lack of information, as those in lower hierarchy do not have strategic information on military activities, with the information gap being filled with conflicting rumors and presumptions; sometimes information overload, especially regarding difficulties beyond the control of the soldier; incompatibility or change of mission - when, in place of activities related to the reconstruction of the country and helping civilians, soldiers must resist attacks and expect traps and conflict of loyalty, for example, against brothers in arms and the desire to be with loved ones.

Fear, guilt and powerlessness are the most important emotional stressors. Soldiers are afraid of their own and their friends' deaths, they do not want to lose their honor and fail their companions, they are afraid of going on patrol and mutilation. Feelings of shame and guilt can arise as a result of harming a civilian, disappointment of his companions or insufficient fulfillment of his duties.

The most important social stressors are the lack of contact with loved ones, isolation from social support and lack of personal space, and difficulties in telephone and Internet connections do not help to survive this difficult period.

All of the above-mentioned stressors are common and chronic - they lead to permanent physical and mental weakness, which intensifies the impact of trauma and exposes to post-traumatic stress disorder.

The most important factor that occurs in the post-traumatic period is the way in which the family and social environment receives returning soldiers. Behaviors learned during the mission, especially after prolonged separation from the family, make it difficult to adapt again. Loss of partners, family breakup or alcohol abuse by veterans are also important.

Negative reaction of the environment and lack of showing support may stop soldiers from talking and showing emotions related to events in the war, which may intensify the symptoms of post-traumatic stress disorder and hinder the adaptation process [11]. Stigmatizing mental problems in a military environment also increases the risk of developing PTSD. Such behavior significantly hinders veterans seeking support groups [12].

Methods of treating posttraumatic stress disorder

When someone develops PTSD, it is extremely important to try to cure it or reduce the symptoms of the disease. In principle, only two methods of PTSD treatment are recognized: pharmacological and psychotherapeutic treatment. It is recommended to initially apply psychotherapeutic treatment first, and then pharmacological treatment with unsatisfactory primary treatment [13, 14, 15]. Unfortunately, it

often turns out that veterans and other people associated with military service have a stigma on them, making it more difficult for them to undertake appropriate treatment while noticing mental problems related to their service [16].

Pharmacological treatment

First-choice drugs, when psychotherapy is not enough, are primarily antidepressants. Chosen medicines are selective serotonin reuptake inhibitors, less often tricyclic antidepressants and monoamine oxidase inhibitors.

The best effects show sertraline, venlafaxine, and nefazodone. In turn, the most disappointing effects can be expected after using paroxetine and fluoxetine [15].

The initial results of treatment with venlafaxine, paroxetine and fluoxetine seem to be illusory and give excellent results at first and then weaken [14,15]. It is similar with one of the methods of psychotherapy - stress inoculation training (SIT) [15].

Antidepressants whose effect on PTSD did not differ from the placebo effect were primarily bupropion, citalopram, divalproex, mirtazapine, tiagabine and topiramata [14,15, 17].

Benzodiazepines are not enough that they do not show greater efficacy in the treatment of PTSD than placebo, but there is evidence that it can even aggravate the problem of PTSD and in veterans they can even cause the desire to commit suicide [18]. For this reason, these drugs are even inadvisable for use in the treatment of diseases associated with or associated with PTSD.

Psychotherapy in treatment of posttraumatic stress disorder

There are many psychotherapeutic methods available for the treatment of PTSD, seen and recomended in the literature.

Prolonged Exposure Therapy (PE) is considered the most common and also considered a gold standard in the treatment of PTSD. Some sources say, however, that this is not sufficient therapy and they also provide as extra the Trauma Management Therapy (TMT). PE normally runs in weekly meetings with imaginal exposure for 10-15 weeks. In turn, TMT takes place in both group and individual sessions and lasts about 17 weeks [19]. However, the same sessions have a better result but in intensive mode. It is said that if the time intervals from individual meetings are smaller (e.g. every one or every two days), the final effect of the therapy will be much better [20]. There are already attempts to analyze through a randomized clinical trial which of the following PTSD treatment methods will be more effective among the military service group [19].

In the Houston Veterans Affairs Medical Center, a study was conducted in which veterans underwent home-based therapy. This method of therapy was to be the basic therapy used as the gold standard in the treatment of PTSD - prolonged exposure, with the difference that veterans had it at home through video to home (VTH). An attempt at such treatment was made because numerous sources said that people give up visits and psychotherapy due to lack of time, lack of access to the place of psychotherapy, or lack of means of transport. VTH was to help maintain or even begin psychotherapy to obtain satisfactory effects of PTSD therapy. The study says that veterans undergoing VTH therapy are more likely to complete the therapy. What's more, the fact that the patients had sessions at home, the environment - the home - provided an additional element supporting treatment. [21].

Van Gelderen et al. conducted a Randomized Controlled Trial in which they investigated the effectiveness of a novel virtual reality and motion-assisted exposure therapy (3MDR). The method proved effective in the final result (16 weeks after the start of therapy) in veterans [22]. It is also worth noting that the same veterans had already after 4 failed therapies on average. The therapy itself is somewhat an extension of the therapeutic techniques of virtual reality and eye movement

desensitization and reprocessing therapy (EMDR) where patients during the walk have their personal fears of PTSD presented in the form of photos and music. The method is confirmed in many theories where, among others, a walk is given as a means to reduce fear, and virtual reality is designed to increase the patient's involvement in therapy [23, 24].

Chen et al. compared two types of therapy in their work. The aforementioned EMDR and cognitive-behavioral therapy (CBT). In their meta-analysis, it can read that in most of the categories they took into account, EMDR therapy in the treatment of PTSD in adults had the best results. EMDR was characterized by a better disappearance of the symptoms of the disease and their lower intensity compared to CBT [25]. Khan AM et al. Came to similar conclusions. by analyzing a lot of research in their meta-analysis. For example, they considered 11 studies saying that EMDR is a better therapeutic method than CBT. They also considered 4 studies in which no statistically significant difference in the effectiveness of both treatments was found. However, considering these therapies in the treatment of anxiety and depression, it turns out that EMDR can be used for anxiety symptoms, while in depression there is no significant difference in the choice of therapy [26].

One of the randomized studies compared the effectiveness of two psychotherapeutic methods in the treatment of PTSD. They were group cognitive-behavioral treatment (GCBT) and group present-centered treatment (GPCT). The research results showed no significant differences in the effectiveness of these methods. Thus, it has been proved that it is not a difference, which of these two therapeutic methods will receive a veteran who has been diagnosed with PTSD [27].

As it was described before, sometimes it is difficult to start the therapy. Grubaugh et al. they intend to carry out a randomized controlled trial. They believe that some of the veterans as symptoms of PTSD have apathy, emotional-numbing symptoms, loss of interest, or happiness. And the combination of these symptoms may make them less likely to start or continue therapy that has already begun. For this reason, Prolonged Exposure (PE) was expanded to include Human-animal interaction (HAI), where veterans were to come into contact with dogs from the shelter, which was to reduce their emotional-numbing symptoms and provoke them to participate more willingly in PE therapy [28].

It is also worth noting that one of the co-occurring symptoms of PTSD may be insomnia or fear of falling asleep. These symptoms appear in 70-91% of cases of confirmed diagnosis of PTSD [29]. One study examined whether commonly used cognitive behavioral therapy for insomnia (CBT-I) could also be used to treat fear of falling asleep. Therapists could not use methods that are usually used to treat such fear (e.g. bed / bedroom safety was out of the question). Their methods were to relate only to insomnia. It was proved that CBT-I reduces symptoms not only of insomnia but also of fear of falling asleep, and their research methods were to completely separate these two disease entities from each other. The reduction of fear of falling asleep was, however, associated with a one-time reduction in the severity of PTSD symptoms [31].

Summary

The experience of war undoubtedly provides numerous events that predispose PTSD. The aggressive nature of the actions, their unpredictability, lack of control and confrontation with their own death and comrades-in-arms are just some of the stressors [7]. The most important predisposing factors of PTSD are female sex, young age, anxiety disorders in the past and trauma in the past [9]. In addition, a number of physical factors such as: high or low temperature enhanced by uniforms, dehydration, excessive humidity and dust, which makes breathing and hygiene difficult. Sleep deprivation, high noise levels caused by explosions, shots, screams and unpleasant smells, mainly of human remains, are also very stimulating stimuli [10]. Other social factors include limited contact with loved ones.

When making a PTSD diagnosis, it is extremely important to implement appropriate treatment. The first choice is psychotherapeutic treatment, and only then pharmacological treatment, which includes the use of antidepressants (mainly SSRIs) [13].

Many studies check different psychotherapy methods and identify the most effective in the fight against PTSD. And although there are many guidelines and suggestions that therapies should be used to diagnose PTSD in patients, invariably the most common appear: cognitive behavioral therapy (CBT), eye movement desensitization and reprocessing (EMDR), cognitive processing therapy (CPT), Exposure Therapy [31]. The use of PE is considered the gold standard [19]. Better results have been observed when using PE if the intervals between individual meetings are shorter and the whole series of meetings more intense [20].

As an addition to the basic therapy of PE, VTH can be used to treat PTSD, which helps not only to start but also to complete the cycle of psychotherapy. This helps not only in terms of the convenience of having psychotherapy at home, but also talks about the additional, positive impact of such a place for the therapy itself [21]. Another extension of such therapy is HAI, where PTSD symptoms such as apathy, emotional-numbing or lack of happiness to live are reduced thanks to animals. Help in the shelter is to restore soldiers' empathy and positive emotions and convince them to undergo PE [28].

If EMDR and CBT are compared, EMDR wins in most points taken into account. Not enough that the symptoms of the disease disappeared better, they were even less severe [25]. The authors of two papers came to such conclusions. Khan et al. in most of the analyzed studies confirmed the greater effectiveness of EMDR over CBT, but also searched for several studies in which there was no statistically significant difference between the two therapies. What's more, choosing EMDR can effectively treat anxiety [26].

Studies also looked at the effectiveness of the extended version of EMDR therapy - 3MDR. It showed effectiveness in the final result of the whole session - after 16 weeks. On the one hand, this is good news, because the therapy is good and effective, but it should be remembered that the majority of patients resign from therapy during treatment, so it may not bring any adverse effects on such people [22].

GCBT and GPCT were likewise compared. In this case, no significant differences in the effectiveness of these methods were noticed [27].

It also turns out that the treatment of other comorbidities can have a positive effect on PTSD treatment. An example of such therapy is CBT-I, which as the primary therapy is used to treat insomnia. Kanady et al. tested the effectiveness of this therapy to treat fear of falling asleep. Not only that, the therapy helped overcome this fear of falling asleep, it was also associated with a reduction in the severity of PTSD symptoms [30].

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