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How We Treat Posttraumatic Stress Disorder

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ABSTRACT

Posttraumatic stress disorder (PTSD) is an uncomfortable response that can follow exposure to 1 or more dangerous or frighteningly traumatic circumstances. Symptoms often include intrusive thoughts, insomnia, nightmares, flashbacks, avoidance behaviors, and hypervigilance or related emotionally troubling experiences. When overtly present, PTSD induces considerable emotional, social, occupational, and interpersonal dysfunctions. Psychotherapy is a commonly recommended initial intervention. There are a wide variety of techniques available. Psychotherapy can also be utilized as a preventative measure when intervention is available in the immediate aftermath of exposure to a potentially precipitating event. Most combat veterans with PTSD at Veterans Administration medical centers in the United States are prescribed pharmacotherapy. Different antidepressant, antipsychotic, adrenergic, and anticonvulsant medications are most commonly utilized. Optimal intervention for patients experiencing PTSD often includes prolonged follow-up that applies both talk and drug therapies in a supportive environment. This narrative review describes psychotherapeutic and pharmacologic approaches to treat PTSD.

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Exposure to 1 or more traumatic events is an essential feature of posttraumatic stress disorder (PTSD).[1] An individual's reaction to such circumstances typically meets criteria for an acute stress disorder in the immediate aftermath of the trauma. Characteristic symptoms include intrusive thoughts, nightmares, and flashbacks of the traumatic events; sleep difficulties; avoidance behaviors; and hypervigilance. When these manifestations do not resolve in a month, PTSD may clinically emerge. Negative social, occupational, and interpersonal dysfunctions are often consequences of the offending experiences. Determination of a diagnosis is complicated by various details about the trauma, depressive or anxiety symptoms, and the heterogeneity of presentations.

A variety of pharmacologic treatments and psychotherapeutic strategies are recommended by different providers. Interventions should occur soon after the trauma and provide a supportive and safe environment.[2] Therapeutic determinants include patient preference, their access to treatment, and their readiness to participate.

At Veterans Administration (VA) medical centers, psychotherapy with exposure to the traumatic memories is administered by nurses, social workers, and psychologists. Medication management is provided by advanced nurse practitioners or psychiatrists. Primary care and specialty physicians attend to most of the patients' medical needs. This narrative review describes psychotherapeutic and pharmacologic approaches to treat PTSD.

PSYCHOTHERAPY

Psychotherapies are documented with good efficacy for subjects with diagnoses of PTSD.[3,4] These interventions include cognitive-processing therapy, cognitive-behavioral therapy (CBT), eye movement desensitization, and reprocessing or narrative exposure therapy.[3,4] These interventions generally improve the clinical status of many patients. Meta-analytic reviews[5,6] indicate that trauma-focused PTSD psychotherapies yield more sustained benefit than pharmaceutical treatments.

CBT is most commonly recommended for treatment of individuals with PTSD, especially when utilized within 6 months following traumatic incident exposures.[7] For those who benefit from CBT, effectiveness can endure for years. However, some patients do not respond adequately to CBT.[8] Prolonged exposure therapy incorporates imaginal and in vivo exposures, psychoeducation, and breathing relaxation.[9]

Patients with PTSD who received exposure or sertraline therapies evidenced improvements that were sustained for 24 months.[10] Reportedly, these therapies are more effective than sertraline for patients with PTSD.[10]

Cognitive-processing therapy is a manual-based intervention that is applied to aid recovery from PTSD.[11] Cognitive-processing therapy is effective for many military combat veterans.[9] Through writing, individuals exposed to trauma and negative emotions can better process troublesome memories.[4] Maladaptive thinking is identified and reshaped.[4,11]

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Clinical Points

- Psychotherapy is a commonly recommended initial intervention for posttraumatic stress disorder (PTSD).
- Different antidepressant, antipsychotic, adrenergic, and anticonvulsant medications are most commonly utilized in the pharmacologic treatment of PTSD.
- Optimal intervention for patients experiencing PTSD often includes prolonged follow-up that applies both talk and drug therapies in a supportive environment.

During eye movement desensitization and reprocessing therapy, patients recall distressing traumatic images while a therapist directs them to perform side-to-side eye movements.[12] Eye movement desensitization and reprocessing therapy is reportedly as effective as trauma-focused CBT and better than non–trauma-focused CBT.[13]

Narrative exposure therapy is a short-term therapy for patients with PTSD symptoms, especially those who have experienced multiple traumas over long periods as a result of war.[14] The treatment involves emotional exposure to the memories of traumatic events and the reorganization of these memories into a coherent chronological narrative. In contrast, present-centered therapy is not trauma focused and does not include disclosure discussion or exposure of traumatic events.[15] Present-centered therapy is time limited and targets daily challenges that individuals with PTSD encounter that may be related to their trauma.[15] Present-centered therapy includes psychoeducation to help patients understand how symptoms disrupt their day-to-day functioning. A comparative analysis[16] was conducted between narrative exposure therapy and present-centered therapy in adults over age 55 years seeking treatment for PTSD. Both interventions benefited older PTSD survivors, with differences not significant enough to recommend one therapy over the other.[16]

PREVENTION

There are some immediate interventions recommended to immediately follow a traumatic event. Stress management techniques involve a single-session review of circumstances after a trauma; however, psychological debriefing for PTSD is less effective and can even be harmful.[17]

A collaborative approach often helps acutely traumatized victims, focusing on problem solving and support via CBT.[18] Early exposure and cognitive therapies accelerate long-term reductions in PTSD symptoms, and benefit is prolonged.[8] Yet, there are survivors with PTSD who remain refractory.[8]

PHARMACOTHERAPY

About 80% of combat veterans with PTSD concerns treated at VA medical centers or clinics are prescribed pharmacotherapy.[19] Of patients involved, 89% receive antidepressants, 61% anxiolytics, and 34% antipsychotics.[19]

Selective Serotonin Reuptake Inhibitors

Selective serotonin reuptake inhibitors (SSRIs) block the presynaptic reuptake of serotonin. They are effective for a variety of PTSD symptoms, such as trauma reexperiencing, avoidance, numbing, and hyperarousal.[20] Fluoxetine, paroxetine, and sertraline have efficacy for diminishing PTSD symptoms and depression.[20,21] Quality of life is also improved.[20] Paroxetine, sertraline, and fluoxetine as PTSD treatments were found to be superior to placebo.[21] PTSD symptoms declined to a 30% remission rate in a brief sertraline trial[17]; however, extending sertraline therapy to 36 weeks increased the benefits.[22–25] In subjects with a partial response to sertraline, adding prolonged exposure therapies increased the response.[26,27] Similar research with paroxetine was less helpful.[28] Sertraline and paroxetine are specifically approved treatments for people with PTSD.[23] Fixed and flexible dosage paroxetine regimens are suggested.[25,29] Improved memory, fewer symptoms, and an increase in hippocampal volume were documented among participants in a paroxetine trial[29]; the measurements by magnetic resonance imaging documented 4% larger volumes.

Serotonin-Norepinephrine Reuptake Inhibitors

Serotonin-norepinephrine reuptake inhibitors block presynaptic reuptake of serotonin and norepinephrine. Venlafaxine diminished PTSD symptoms during a 6-month trial.[30] This drug was associated with better stress management; however, many subjects did not quickly achieve remission.[30,31]

Tricyclic Antidepressants

Tricyclic antidepressants block presynaptic reuptake of serotonin and norepinephrine. Imipramine, amitriptyline, and desipramine have demonstrated effectiveness for patients with PTSD symptoms.[31–33] Currently, these medications are less commonly utilized.

Monoamine Oxidase Inhibitors

Monoamine oxidase inhibitors block the intraneuronal catabolism of monoamines including serotonin, norepinephrine, and dopamine. Vietnam War combat veterans with PTSD indicated that phenelzine reduces arousal and reexperiencing phenomena, but it is currently infrequently prescribed.[32]

Adrenergic Antagonists

Prazosin, an α_1-adrenergic antagonist, decreases military trauma–related nightmares.[34] Prazosin can induce significant hypotension but otherwise is well tolerated. Prazosin reduces sleep disruptions and might diminish nightmares. These dreams contain threatening past combat content, while dreams of people in domestic settings often feel less realistic.[34] PTSD-related fear memories are diminished by β-adrenergic blockade at the amygdala.[35] In animals, noradrenergic blockade in the lateral amygdala hampers memory consolidation.

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Table 1. Pharmacotherapy Options for PTSD

Drug or Drug Class	Efficacy	Prescribing Notes
Risperidone	Effective for women with chronic PTSD following physical, sexual, or emotional abuse as a child.[43]	Reduces intrusive traumatic thinking and hyperarousal.[43]
SSRIs	The pharmacologic treatment of choice for patients with PTSD. Sertraline and paroxetine have US Food and Drug Administration approval for PTSD treatment.	Effective at diminishing reexperiencing, avoidance, numbing, and hyperarousal and also at sustaining a better quality of life.[21] Sertraline efficacy improves when augmented by exposure therapy.[28]
Trazodone	Limited efficacy as monotherapy.	Can be combined with SSRIs to counter insomnia due to antihistaminergic effects.
Tricyclic antidepressants	Imipramine[33] and desipramine[34] have demonstrated efficacy.	Less commonly utilized.
Monoamine oxidase inhibitors	Less reexperiencing and arousal symptoms among combat veterans.[33]	A third-choice drug; also has important dietary, drug, and beverage restrictions.
Prazosin	An α_1-adrenergic antagonist that can reduce traumatic PTSD nightmares.[35]	Fear memories are reduced by β-adrenergic blockade at the amygdala.[36]

Abbreviations: PTSD = posttraumatic stress disorder, SSRI = selective serotonin reuptake inhibitor.

Table 2. Treatment Guidelines for Posttraumatic Stress Disorder

Practice Guideline for the Treatment of Patients With Acute Stress Disorder and Posttraumatic Stress Disorder[51] https://psychiatryonline.org/pb/assets/raw/sitewide/practice_guidelines/guidelines/acutestressdisorderptsd.pdf
Guideline Watch (March 2009): Practice Guideline for the Treatment of Patients With Acute Stress Disorder and Posttraumatic Stress Disorder[52] https://psychiatryonline.org/pb/assets/raw/sitewide/practice_guidelines/guidelines/acutestressdisorderptsd-watch.pdf
Clinical Practice Guideline for the Treatment of Posttraumatic Stress Disorder (PTSD) in Adults[53] http://www.apa.org/ptsd-guideline
VA/DoD Clinical Practice Guidelines. Management of Posttraumatic Stress Disorder and Acute Stress Reaction 2017[54] https://www.healthquality.va.gov/guidelines/MH/ptsd/

Propranolol, a β-blocker, may attenuate unwanted PTSD memories among patients.[36] Symptoms decreased in those prescribed propranolol 40 mg shortly after a traumatic exposure.[36] Subsequent studies,[37] however, have not supported propranolol in the prevention or treatment of PTSD.

Antipsychotics

Studies[38,39] have shown quetiapine or olanzapine to be helpful for veterans with PTSD. Patients experienced improvement in rating scores, reductions in reexperiencing phenomena, and less hyperarousal.[38,39] Olanzapine augmentation to an SSRI regimen was found to diminish PTSD stress measures, sleep symptoms, and depression.[21] In a trial[40] of military-related PTSD with SSRI-resistant symptoms, treatment outcomes at 23 VA outpatient medical centers after 6 months of risperidone treatment were no better than placebo. In women with PTSD randomized to risperidone or placebo after washout from other psychotropic medications, risperidone monotherapy was more beneficial for anxiety, depression, and PTSD ratings.[41] Low-dose risperidone is a safe and effective treatment for intrusive and hyperarousal symptoms in adult women with chronic PTSD from childhood physical, sexual, verbal, and emotional abuse.[42]

Anticonvulsants

There are inconsistent results of efficacy from topiramate in PTSD cases. Improvement occurred with topiramate compared to placebo in reexperiencing, avoidance, and numbing symptoms among PTSD patients.[43] Yet, another topiramate monotherapy trial resulted in a decrease in PTSD symptoms that was not statistically significant.[44] Male veterans in a residential treatment program for combat-related PTSD were randomized to flexible-dose topiramate or placebo.[45] Results for patients taking topiramate failed to show benefit over placebo.[45]

Similar results were noted with divalproex. In a randomized controlled trial, divalproex was not effective for treating chronic PTSD in older male military combat veterans.[46] Divalproex also failed to surpass placebo in a preliminary trial for people with PTSD.[47]

Ketamine

Ketamine, an *N*-methyl-D-aspartate receptor antagonist, was found to reduce PTSD symptoms.[48] The trial[48] randomly assigned patients to receive a single infusion of intravenous ketamine or midazolam. After 24 hours, ketamine diminished PTSD and depressive symptoms more than midazolam. Ketamine was tolerated with no significant side effects.[48]

D-Cycloserine

In a meta-analysis[49] of anxiety disorders, obsessive-compulsive disorder, and PTSD, D-cycloserine, an *N*-methyl-D-aspartate receptor partial agonist, was associated with a small augmentation effect on exposure therapy, which was not moderated by concurrent antidepressants. However, in a study[50] in which subjects were limited to only PTSD patients, D-cycloserine in conjunction with exposure therapy failed to demonstrate a benefit.

PHARMACEUTICAL EFFICACY

For patients with sleep disturbances, prazosin, mirtazapine, and trazodone have been prescribed

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effectively.[33] Antidepressant medications commonly utilized for PTSD rarely result in complete symptom remission, but they offer some relief.[34] Once a patient improves, tapering antidepressant pharmaceuticals gradually over several months reduces relapse risk upon discontinuation.[34]

Prevention of PTSD has not been effective with escitalopram, gabapentin, temazepam, or propranolol.[5] Benzodiazepines may actually increase PTSD symptoms in some people.[5] Pharmacotherapy options for PTSD are included in Table 1, and a list of treatment guidelines is included in Table 2.

CONCLUSION

A first-line treatment for PTSD is trauma-focused exposure-based psychotherapy. When psychotherapy is not available, or if the patient prefers medication, an SSRI is a prudent option. It is important that the patient understand that psychotherapy will require close and frequent appointments and will probably be more time consuming and costly than a medication management approach.

Also, and especially in older men, the likelihood of SSRI-induced sexual dysfunction and other potential SSRI side effects should be discussed. Practitioners who provide therapies can be from multiple disciplines such as social work, psychology, or psychiatry, but specific therapy training is necessary to treat PTSD. If the clinician is not versed in a PTSD-specific therapy, a referral source is necessary.

In the VA, patients with PTSD sometimes receive the combination of medication management and psychotherapy, but the evidence base for the effectiveness of a medication plus therapy approach is insufficient. For example, combat-related PTSD patients were randomized to receive prolonged exposure plus placebo, sertraline with enhanced medication management, or the combination of prolonged exposure and sertraline.[55] No difference was noted in change in enhanced medication management, prolonged exposure therapy plus placebo, and prolonged exposure therapy plus sertraline.[51] In summary, close collaboration and communication between health care providers and the patient is necessary to effectively treat PTSD.

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