



## POST-TRAUMATIC STRESS DISORDER DIAGNOSTIC AND MANAGEMENT APPROACH, LITERATURE REVIEW

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### ARTICLE INFO

#### Received:

20 Aug 2021

#### Received in revised form:

14 Nov 2021

#### Accepted:

20 Nov 2021

#### Available online:

28 Dec 2021

**Keywords:** Post-Traumatic stress disorder, Anxiety, Cognitive behavioural therapy, Diagnosis

### ABSTRACT

Many psychiatric diseases are presenting with anxiety and distress in patients, and these often reduce the quality of life and daily functioning. Of the anxiety disorder, post-traumatic stress disorder (PTSD) is a condition that occurs in people who have suffered psychological or physical trauma. In this review, we discuss post-traumatic stress disorder from etiology and risk factors, clinical features, medical and psychotherapeutic management, and follow-up. PubMed database was used for articles selection, papers were obtained and reviewed. PubMed database was used for articles selection, and the following keys terms: post-traumatic stress disorder, risk factors, clinical features, diagnosis, and management. Non-medical treatment should be attempted first in PTSD cases, followed by counseling through cognitive behavioral therapy and eye desensitization. Counseling should include the development of personal resilience against traumatic events as this helps patients deal better and effectively with trauma. Medications could alleviate many symptoms and include selective serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, and atypical antidepressants. PTSD is a combined mental issue of anxiety and stress, its management should be done according to symptom severity. This includes a combination of psychotherapeutic follow-up, appropriate counseling, and medications.

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**To Cite This Article:** Moukhtar NM, Almutairi ZM, Jamjoom RH, Alamri SM, Alamry AM, Asiri MA, et al. Post-Traumatic Stress Disorder Diagnostic and Management Approach. *Pharmacophore*. 2021;12(6):6-9. <https://doi.org/10.51847/2b8HGJyh9L>

### Introduction

Many psychiatric diseases are presenting with anxiety and distress in patients, and these often reduce the quality of life and daily functioning [1, 2]. Of the anxiety disorder, post-traumatic stress disorder is a particular condition that occurs in people who have suffered psychological or physical trauma. Post-traumatic stress disorder (PTSD) was often known as “shell shock” as it occurred in soldiers returning from war. The difference between veterans with PTSD ranges from mild, moderate, and severe symptoms [3]. While males have been affected with PTSD, there is now a predisposition for PTSD to occur more in women. Evidence shows a sex hormonal interaction with epigenetics and environment in the development of PTSD [4]. The problem with post-traumatic stress is the repeating flashbacks and nightmares that the affected patient suffers from. The nightmares would interrupt regular sleep patterns and causes insomnia, fatigue, and loss of concentration.

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## Materials and Methods

PubMed database was used for articles selection, papers were obtained and reviewed. PubMed database was used for articles selection, and the following keys terms: post-traumatic stress disorder, risk factors, clinical features, diagnosis, and management. Regarding the inclusion criteria, the articles were selected based on the inclusion of one of the following topics: post-traumatic stress disorder, its etiology and risk factors, diagnosis, medical and psychotherapeutic management. Exclusion criteria were all other articles that did not have one of these topics as their primary endpoint.

Traumatic events include anything that could cause severe mental distress, such as the commonly occurring road traffic accidents. There is also the trauma that could result from interpersonal conflict, sexual rape, robbery, and self-inflicted accidental injury [5]. PTSD classically was thought to occur in soldiers returning from wars. In addition to soldiers, there is an occupational risk for PTSD in certain jobs which include essential workers during disasters which are police officers, firefighters, and healthcare professionals [6, 7]. Other occupations at risk include those at risk of traumatic vehicular injuries such as train and truck drivers and ambulance personnel. Injury at sea is another occupation at risk of PTSD, these include divers and sailors. Of course, people who may be exposed to gunfire are at a heavy risk of PTSD such as soldiers, police officers, bank personnel, post offices, and stores [8].

### *Pathophysiology*

When the traumatic event occurs, a surge of adrenaline accompanies it during the fight-or-flight response. This adrenaline causes neurological pattern shifts within the brain, which would become apparent when the patient is exposed to further situations. Hyper-reactivity and response to situations are caused by this former neurological change, rendering the patient vulnerable. At the physiological level, the continuous high levels of stress hormones would cause prolonged suppression of the hypothalamic-pituitary axis [9]. This suppression causes increased sensitivity to glucocorticoid receptors and, hence, increased sensitivity to fear when it occurs.

### *Clinical Features*

After a traumatic event, symptoms may be dormant and may not appear until a few weeks have passed and up to months or years later. While many patients recover steadily across time, they remain symptomatic and require treatment. Some patients, however, are fortunate that their symptoms alleviate and disappear by six months. Patients could present with complaints of flashbacks, hallucinations, and nightmares. These symptoms are due to the patient reliving the traumatic event through memory, especially if the event was severe and there were trigger factors for the flashbacks. These relieving symptoms commonly lead to sleep disturbance, which in turn complicates recovery from PTSD and impacts daily functionality [10]. In addition to disrupting their sleep and daily activity, these symptoms cause the person affected with great distress as they serve as continuous reminders of the initial event.

Post-traumatic stress could also lead to patients avoiding interaction with others, detouring from certain places, and distracting from any trauma-related thoughts or situations. This is noticed by both the patients and the people around them. A detached patient suffers because of the condition per se and the social isolation that follows. Moreover, patients may lose interest in doing certain activities that they used to enjoy, a sign of depression. This could be accompanied by feelings of guilt for the traumatic event, and estrangement from others due to social isolation. In children, there might be instability in emotion which could be noticed as difficulty concentrating in class. Children may also have developmental delays with potty training, group play, speech, and walking.

Other patients may still socialize with others, but unfortunately, their problem lies in their reduced ability to deal with emotional situations. This could affect their sexual interaction with their partners, and psychiatrists must investigate the possibility of sexual dysfunction [11]. These patients are irritable and emotional, with sudden bursts of anger or anguish. These patients may show abnormal vital signs such as hypertension, tachycardia, and tachypnoea. There may be physical symptoms of muscle twitches or gastrointestinal disturbance due to emotional stress such as vomiting and diarrhea.

### *Diagnosis*

PTSD remains a diagnosis made during clinical assessment, and imaging or investigations are done as supplementary investigations to exclude associated problems. There are methods to diagnose PTSD by interviewing the patient, these include the Diagnostic and Statistical Manual of Mental Disorders fifth edition and the Clinician-Administered PTSD Scale [12, 13]. There are however barriers to accurate diagnosis, especially in children under six years of age [14].

Imaging abnormalities are often found in children who suffer from PTSD, these include a decrement in hippocampus size, an increment in amygdala reactivity. These changes in volume and function of memory and fear centers in the brain could be a cause for increased and prolonged severity of PTSD symptoms. PTSD may show a diamond pattern on single photo-emission computed tomography. This is because of the increased activity of four areas in the cerebrum. These include the anterior cingulate, both basal ganglia, and deep thalamus [15].

### *Management*

Fortunately, post-traumatic stress is a manageable condition and a treatable chronic illness. Patients will differ on how they respond to management, depending on their willingness to be treated and the severity of their illness. Depending on the

traumatic event type and when it occurred, the patient should be offered management accordingly. The initial management is often observation for symptoms, what alleviates or exacerbates them, and if they abate by time. This is done to identify risks for PTSD and prevent it from manifesting. In many patients, symptoms often resolve after a period from the traumatic event. While most patients improve within a few weeks, they should not be sent home after the initial complaint suggestive of post-traumatic stress without safety netting for certain signs. For instance, if the symptoms persist beyond a month, then the patient should return for further assessment and possible referral to a psychiatrist. Other patients may not be able to stop the cause of the stress itself. These patients should be further investigated by good history taking, to assess for any risks to themselves and others. Repeatable traumatic situations could be anything, but commonly involve neglect, sexual abuse, and physical assault. There are certain vulnerable groups in such situations including the elderly, children, spouses, tenants, and soldiers.

Non-medical treatment should be attempted first, for instance, massage therapy has proven effective in decreasing stress hormones and increasing serotonin and dopamine levels [16]. Thereafter, psychological therapy should be attempted with a focus on cognitive-behavioral therapy. There are other methods of psychotherapy including eye movement desensitization and reprocessing. Counseling should include the development of personal resilience against traumatic events, as this could also prevent PTSD from occurring [17].

Medication is provided to patients for symptomatic treatment, antidepressants are often the first line. These include medication classes such as selective serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, and atypical antidepressants [18]. These medications are not only important for PTSD but also the associated conditions of depression and quality of life disability [19]. For patients with emotional distress, there is the benefit of giving them intranasal oxytocin [20]. There are also trials on the efficacy of methamphetamine and cannabinoids in the treatment of PTSD, but more evidence is required before it can be implemented in practice [21, 22]. On the other hand, benzodiazepines are not recommended in the management of PTSD, as they are ineffective in the treatment of insomnia and sleep disturbance.

## Conclusion

PTSD patients could seclude themselves and in doing so prevent appropriate help to themselves. Hence, when a traumatic event occurs the medical team aims to stabilize the patient and attempt preventive measures of counseling resilience. If patients do develop PTSD then observation and counseling for dealing with the problem should be done. Medications should be reserved for when symptoms begin to affect daily functioning and social relationships.

**Acknowledgments:** None

**Conflict of interest:** None

**Financial support:** None

**Ethics statement:** None

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