



# Post-Traumatic Stress Disorder: Symptoms, Screening and Treatment

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## Abstract

Sometimes, as a result of experiencing or witnessing a distressful/traumatic event, there are changes in the brain leading to an anxiety disorder called as Post Traumatic Stress Disorder (PTSD). In the present article, symptoms of PTSD have been described which may be categorized into four different categories viz. flashbacks, avoiding behaviour, unusual alertness and negative feelings. Person with PTSD has mental problems like depression, phobias and anxiety. Person when feels that distressful event is occurring again or recalls in the memory, there may be increased heart beats, high blood pressure etc. Here, screening for PTSD has also been described. On MRI of brain, patient has difference in the size of hippocampus compared to normal person. There are changes in the levels of certain hormones involved in stress conditions also. Mostly doctors recommend counselling, psychotherapy, medicines or combination of these.

**Keywords:** Post traumatic stress disorder; Traumatic events; Flashbacks; Depression; Anxiety; Hippocampus

## Introduction

If a person experiences or witnesses a traumatic event which is shocking, life threatening, humiliating, distressful and feels helpless, these conditions may happen in situations like crimes, fire, accident, death of a very loved person, sexual or physical abuse in some form, rape, terrorist attack, ragging in the college/ hostel etc. It causes changes in the brain leading to disturbance in thinking and emotional process leading to an anxiety disorder called as post-traumatic stress disorder (PTSD).

As per an estimate, nearly 45 million people worldwide are suffering from PTSD. This number may be even more since many people do not go to a doctor since they do not realize about the seriousness of the situation or due to shame or societal fear. It has also been predicted that women are more prone to PTSD than men since men are generally more able to tolerate [1,2]. Generally, person gets shocked and suffers from stress disorder within short span of the distressful event, however, in some cases, symptoms develop at a later stage. It has been found that with time, person instead of feeling better, he/ she feels worse and becomes more anxious and fearful. In the present article, symptoms of the disease have been discussed. Besides, clinical screening for diagnosis and various treatment therapies and medicines available are discussed including present trend of research for PTSD.

## Symptoms of PTSD

Generally, symptoms are visible within three months of a distressful event, sometimes, it takes longer. The symptoms of PTSD may be categorized into following four categories, and one may develop either of these or jointly more than one category.

### Flashbacks/Intrusion

- i. The person has upsetting memories of the distressful event and generally sees the event in nightmares feeling that the same event is occurring with him/her.
- ii. Person always feels as the traumatic (distressful) event will occur with him/her again.
- iii. Person feels unusual body reactions like increased heart beats, high blood pressure when he/ she feels that distressful event is occurring again or recalls in the memory.

### Avoiding behaviour

- i. Person avoids to go the place, or to meet the person(s), which reminds him/ her of that distressful event.
- ii. Person avoids to discuss the event with anyone.
- iii. c. Unusual alertness

- iv. Person behaves abnormally, for example, on ringing the telephone, he/ she starts jumping or running towards the telephone.
- v. Person develops the tendency to cause harm to himself/ herself or sometimes even develops suicidal behaviour.
- vi. Person remains irritated all the time, unable to sleep properly, not able to concentrate on any work.

### Negative feelings

- i. Person feels unsafe everywhere.
- ii. Person develops persistent negativity and blames to himself/ herself for the distressful event.
- iii. Person feels isolated/ detached from everyone.
- iv. Person feels reduced interest in life.
- v. Person has mental problems like depression, phobias and anxiety.

Although, it is usual to feel anxiety immediately after the traumatic event but normally there is healing with time. If healing did not occur with time and increased with time, then these may be symptoms of PTSD.

American Psychological Association (APA) has also formulated the guidelines for detecting symptoms of PTSD. According to these guidelines, person has been exposed to death or threatened death, serious injury or sexual violence whether directly, through witnessing it, by it happening to a loved one, or during professional duties. Besides, APA has also described more or less the same symptoms as stated above [3,4]. It is advisable that if a person got witnessed or suffered a distressful/ traumatic event and finds the persistent symptoms as stated above for a longer time, he/she must visit expert doctor for checkup.

### Physical Symptoms

**Besides, person suffering from PTSD may also have following physical symptoms:**

- a) observed that if behaviour changes persist for a longer time, person has problems at work and in the When person is not able to sleep properly, he/ she may feel much tiredness and other problems like body ache.
- b) Sometimes, person gets frequent infections. It is due to weakened immune system.
- c) Besides, person may feel chest pain, stomach cramps/ pain, headache, dizziness etc.
- d) It has also been marital relationship. Person starts drinking more alcohol or taking drugs. Under the circumstances, it is advisable to get check up by an expert doctor.

**In case of children who suffer sexual abuse, may have following visible symptoms:**

- a) They generally have low self-confidence.
- b) They try to hurt themselves.

- c) Mostly appear sad, anxious, feared and prefer to stay in isolation.
- d) Sometimes become habitual for alcohol and/or drugs.
- e) They mostly behave aggressively.
- f) Sometimes, depending upon the age, show unusual sexual behaviour.
- g) Sometimes, depending upon the age, feel guilt and think, why he/ she did not resist during the traumatic event; and afterwards have the feeling of taking revenge.
- h) Sometimes, children exhibit reflection of the traumatic event in paintings, plays, stories etc. They feel nightmares of traumatic event and get disturbed. Due to fear, they hesitate to go to school or are not able to behave properly with the friends. Sometimes, even are not able to study properly.

If even a few symptoms are visible in a child who has witnessed or suffered any sex abuse or other stressful event, parents without much delay must carry the child to an expert doctor.

### Screening for PTSD

Doctors generally give a screening test in order to confirm whether he/ she is suffering from PTSD. If symptoms of PTSD get faded or disappear after a few weeks or a couple of months, it may be acute stress disorder and not PTSD. If person suffers from PTSD, symptoms are much severe and mostly appear after few months of the distressful event. In case of PTSD, patient is likely to recover within a year or so [5-7]. However, in some cases, patient suffers for years with visible symptoms.

It has been observed that some people suffer from PTSD after experiencing or witnessing a traumatic event while others don't.

**There are number of factors which increase the chances of PTSD like:**

- a. If person does not get social support from the family or friends.
- b. If person in the past had some mental problems.
- c. If in the past, person experienced sexual abuse.
- d. If person's physical health is weak.
- e. If after the tragedy, person got other problems too like firing from the job or loss of some beloved one.

**On the other hand, there may be conditions which help in not developing PTSD. These are:**

- a. If person has emotional support from the friends/ family members.
- b. If person is having the quality to face the odd situations boldly.
- c. If person has the quality to cope up even under much traumatic conditions.

According to some reports, genetic factors also influence the condition by increasing depression, anxiety etc.

On MRI of brain, it has been found that people with PTSD have difference in the size of hippocampus compared to normal individual since this part of the brain is involved in processing emotions and memories which may affect the flashbacks.

It has also been reported that levels of hormones which are released under adverse conditions/ stress, has also been found to be different in persons with PTSD compared to normal person.

## Treatment

Mostly doctors recommend counselling, psychotherapy, medicines or combination of these.

It is recommended that if talks are done repeatedly about the traumatic event and about the fear present in the patient in a safe environment, it may help to control the adverse thoughts. This therapy is called Exposure Therapy. However, in this therapy, there is always a risk that instead of improvement, condition of the patient may be worse.

Besides, person is convinced to think the whole event in a new way. Psychotherapy may help in controlling the stress and fear.

## Medicines

No patient must take any medicine without consulting a doctor. If above mentioned treatments, exposure therapy and/or psychotherapy do not work, Doctors normally prescribe selective serotonin reuptake inhibitors (SSRIs) like paroxetine. The SSRIs help in reducing depression, anxiety and sleep problems, symptoms mostly present in PTSD. However, sometimes, antidepressant medicines have adverse effects like patient may think to suicide. Some doctors also prescribe benzodiazepines for anxiety, sleep problems, irritation etc. It is pertinent to mention that generally it must be preferred not to give any medicine (unless there is a severe problem) since these medicines only subsidize visible symptoms and person may become habitual of taking these antidepressants.

## Other Therapies

1. Specialist asks the patient to recall the traumatic event after making a specific type side to side eye movement. This therapy helps in reducing the stress level for patients of PTSD and also helps in developing positive emotions, thoughts, behaviour etc. This therapy is called as eye movement desensitization and reprocessing.

2. It has also been suggested that if cortisol hormone therapy is given to the patient just after the distressful event, it may help in reducing the risk of PTSD.

3. Some doctors prefer to prescribe a recreational drug which affects the memories more positively by encouraging a feeling of safety.

All these therapies are not proven therapies and require more research.

Sareen [8] discussed important advances in PTSD considering much increase in the number of patients of PTSD after many high-profile traumatic events like wars in Iraq and Afghanistan, terrorist

attacks of September 11 on the World Trade Center. He reviewed the advances in the diagnosis of PTSD, inclusion of its diagnosis in the Diagnostic and Statistical Manual of Mental Disorders, impact of PTSD in the community, risk factors, assessment and treatment.

Bisson et al. [2] emphasized on the need to know about PTSD. According to them, responses to traumatic events vary depending upon the individual and most of the persons do not suffer with any mental disorder after traumatic event. Nearly 3% adults suffer from PTSD at any one time and ranging from 1.9 to 8.8% people suffer lifetime. They also reviewed diagnosis and treatment for the disease. They identified Cochrane and other relevant systematic reviews, meta-analyses and other research papers. They also used evidences from meta-analyses of randomized trials in writing the review research article.

Shalev et al. [9] reviewed the clinical status of PTSD. According to them, more than 70% humans experience a traumatic event at some or other time in their lives, and 31% experience four or even more traumatic events. PTSD is the most common psychopathological condition which has been evidenced after experiencing traumatic events. They discussed symptoms of PTSD, status of diagnosis, neurobiologic characters, treatments available and clinical implications of the knowledge.

Dopfel et al. [4] reported individual variability in behaviour and functional networks and mentioned that differences in vulnerability to PTSD is due to predisposition or trauma exposure, is not clear. They measured pre-trauma brain-wide neural circuit functional connectivity, behavioural and corticosterone responses to trauma exposure, and post trauma anxiety by using the predator scent model of PTSD in rats and a longitudinal design. They showed that pre-existing circuit function can predispose animals to differential fearful responses to threats.

Corbett et al. [3] showed that sphingosine-1-phosphate receptor 3 in the medical prefrontal cortex of rats regulates resilience to chronic social defeat stress. They also showed that sphingosine-1-phosphate receptor 3 mRNA in blood of veterans with PTSD gets reduced when compared with the combat exposed control subjects. They also negatively correlated the expression of sphingosine-1-phosphate receptor 3 mRNA with the severity of the symptoms. On the basis of results, they concluded that sphingosine-1-phosphate receptor 3 is a regulator of stress resilience and sphingolipid receptors are important substrates of relevance to stress related psychiatric disorders.

Holmes et al. [5] showed that synaptic loss and deficits in functional connectivity may be considered as symptoms for major depressive disorder (MDD) and PTSD. They also mentioned that synaptic vesicle glycoprotein 2A can be used to index the number of nerve terminals and that is an indirect estimate of synaptic density. They showed that lower synaptic density is associated with the severity of depression and network alterations. They claimed that their study is the first to show in vivo evidence correlating lower synaptic density with depression severity and network alterations. This study may be helpful in treating depression.

Modarres et al. [6] emphasized that objective biomarkers for detection and severity of PTSD are badly required. They showed that electroencephalographic (EEG) coherence is a promising approach to identify and understand brain biomarker activity in PTSD. They showed a strong correlation of novel sleep EEG coherence markers with diagnosis and severity of PTSD. For this, they collected overnight polysomnography data containing EEG across sleep and wake states of many veterans with PTSD and without PTSD (for control). They calculated brain coherence markers from EEG signals using a novel approach. They showed that EEG based brain coherence markers can be used as an objective means for determining the presence and severity of PTSD [10,11].

## Conclusion

Post-traumatic stress disorder (PTSD) is a mental disease which changes the life of the person. After some distressful event, if a person's behaviour changes and does not revert back within reasonable time, person must consult a specialist doctor and proper treatment must be taken. Although therapy commonly given may not cure completely, patient's condition may improve. There is requirement of more research on PTSD.

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