# UNIT 3 POST TRAUMATIC STRESS DISORDER (PTSD)

**Structure**



## 3.0 INTRODUCTION

You have seen on the TV terrorist attacks on the railway station and the Taj in Mumbai, the pictures of Tsunami, the accident of the Jnaneswari Express and other such disastrous incidents. Some of you may have actually been victims of these events. Some others may have friends and relatives who had suffered. Some others have simply heard and seen the reports in media. What impact do such traumatic events leave on the life of the individual? These events come completely unexpected, and shatter every dream we cherish in our hearts. Some of these are man-made, like the terrorist attack, some are natural like the Tsunami and some are partly accidental and partly due to human negligence like the Bhopal Gas leak. Do the reactions differ among these? You may have noted that all the examples given here are disasters affecting a large number of people. There are other disasters as well that affect only a single person. Examples are rape, individual assaults or individual accidents.

You may guess that the impact of such trauma may be immense on the surviving victim's mind. While there are always a brave few who withstand the trauma gracefully, short term reactions are observed in most. For a good number of people the impact is long term. The relatively long term psychiatric condition that develops as a result of exposure to severe trauma is known as *Post Traumatic Stress Disorder (PTSD)*.

In this unit you would learn about the symptoms, expressions, causes and intervention of PTSD. You would also read case studies exemplifying the typical symptoms. The names of all case studies used here are fictitious and all important identifying information has been changed to maintain anonymity of the persons.

## 3.1 OBJECTIVES

After completing this unit, you will be able to:

- Describe the symptoms of post traumatic stress disorder;
- Describe the situations eliciting post traumatic stress disorder;
- Discuss the aetiology of post traumatic stress disorder; and
- Discuss the prevention and treatment of post traumatic stress disorder.

## 3.2 POST-TRAUMATIC STRESS DISORDER: SYMPTOMS AND CLINICAL FEATURES

Post-Traumatic Stress Disorder (PTSD) is a psychiatric condition developed as an aftermath of severe trauma often involving violence and demolition. DSM IV – TR requires that for diagnosing a person as suffering from PTSD, there must be a history of exposure to severe trauma. The person may have experienced, witnessed or been confronted with an event or events that involved actual or threatened death, serious injury or threat to integrity of self and others. The reactions of the person would be predominantly fear, helplessness, and terror.

In PTSD, the victim cannot get rid of the memory of the traumatic experience. At least one of the following symptoms of intrusive memory is present*:* recurrent and intrusive recollection of the event, distressing dream, intense distress if any internal or external cue symbolizes or resembles the traumatic event. For example, after a terrorist attack, the sound of a car tyre bursting may remind the victim of the sound of firing and bring back the distress.

At least three of the following behaviours must be present. The victim tries to get rid of the thoughts, feelings and activities related to the trauma, though the effort is often not successful. She feels a kind of detachment and experiences a restricted range of emotions. For example a victim may feel that she is incapable of loving anybody. Indeed, after the Second World War many captives of the Nazi camp had this feeling of not being able to relate to others. Many of them remained single throughout life, and for some who married, inability to love became a problem. At times the memory of the victim is distorted. She cannot recall significant parts of her experience. Sometimes she has a sense of foreshortened future, that is, she cannot visualise a normal education, career or family life.

The PTSD victim also has at least two of the following symptoms of excessive arousal. She has difficulty falling or staying asleep, irritability, outburst of anger, problem in concentration and exaggerated startle response.

You may notice all or many of these symptoms immediately after the trauma in most victims. But a section of trauma victims grow out of these symptoms within a short period, especially if they are kept in safe place. But for some the problem lingers. To be diagnosed as suffering from PTSD, one must have these symptoms for at least one month. On the other extreme, for some people the symptoms persist for the rest of the life. PTSD can be acute or chronic. If the duration of the symptoms is less than three months, it is known as acute. If it is more than that, it may be called chronic.

In some cases of PTSD, the clinical picture involves intense guilt and depression. Under emergency situation, the victim may feel that she has not played her role adequately. Perhaps a moment's negligence has caused the loss of a loved one. This is known as the survivor's guilt. This has been studied extensively in connection to combat stress and natural disasters. Some other reactions are anger, substance abuse in the form of self medication, low output at workplace and interpersonal problem. If you scrutinize the records of the US war veterans at Vietnam, you would find that many of them were discharged from the army with a bad report that complained of anger outburst and excessive alcohol intake. Much later these behaviours were interpreted as symptoms of PTSD. On certain occasions, especially when the surrounding is unsupportive, extreme depression and suicidal thoughts predominate. Behavioural aberrations may last a lifetime.

In other words, you may guess rightly that trauma does not demolish only those who had died. It can demolish the existence of those who survive.

### 3.2.1 The Clinical Picture of Children with PTSD

When you see a child victim of a trauma, you may observe that they express the responses in a manner different from the adults. Children often have greater difficulty in verbally expressing their pain, especially when physical or sexual abuse has been involved. You may have heard of horrible experiences of children during riots. They may have been subject to assaults themselves or have witnessed their parents assaulted. If you visit some of the rescue camps after the riots you may observe a numbness in children. Often the experiences are beyond their understanding and they simply lack the language. Sleep disorder and nightmares are very common. Some smaller children lose the already acquired developmental skills. For example the child may lose speech or forget toilet training. Change in behaviour is also more common in children. A happy outgoing child may become introvert or a shy child may become unduly aggressive.

You may understand that PTSD, especially when it involves children posits an enormous burden on the society. Victims of PTSD, especially children remain prone to psychiatric disorders and physical health hazards for the rest of the life. They may develop mood disorder, other anxiety disorders like Generalised Anxiety Disorder or Obsessive Compulsive Disorder, and Substance Abuse Disorder. Such children are also more likely to fail in academics, carer and relationship. They may be more prone to cardiac problems in later life.

### 3.2.2 Time of Onset of PTSD

When does PTSD begin? This is indeed a controversial issue, as in many cases it has been observed that symptoms show up not immediately after the event, but months or years later. There are two contending explanations. On the one hand it is possible that the victim of the trauma has initially erected a strong defence, but gradually it failed to serve its purpose and the memory of the trauma returns with full severity. A second and alternative explanation is that the trauma at best developed a vulnerable personality in the victim. In the course of life she has encountered another trauma of relatively milder nature and that has served as a cue to the earlier one. A third explanation is that the delayed symptoms are not at all related to the original trauma but are reactions to some recent life events. Since the person has a memorably traumatic past, the symptoms are wrongly attributed to the earlier trauma. While we do not know the final answer, you must keep in mind the possibility that either of these can happen and only detailed case history may solve the dilemma in each individual case.

## 3.3 DIFFERENT SITUATIONS ELICITING POST TRAUMATIC STRESS DISORDER

In this section you would learn about different situations of PTSD and how they might affect victim's emotions and behaviour.

### 3.3.1 Trauma of Military Combat

The trauma of military combat revolves around a few issues. While army training prepares the soldiers to withstand the trauma of warfare, during actual exposure the killings and uncertainties may take a different meaning. Particularly when the war is not against another equally equipped country, but against guerrillas and ordinary civilians as is often required to deal with terrorism, the moral issues often come forth to the forefront. Survival guilt is also common in military combat.

A case study: Mohan, 41, an ex-serviceman was referred for psychiatric consultation with the complaint of depression and alcoholism. Quite some years back Mohan saw his friend and colleague Suraj dying in a combat in front of his eyes. The earlier night they had talked together and Suraj had expressed his frustration at the manner in which their duties were being allotted. Mohan had comforted his friend and went to sleep. Next day, during a cross fire, Suraj was hit and died instantly. Mohan did not get any chance to have a last word with him. He just remembers that Suraj looked at him plaintively, probably trying to say something. The look haunts Mohan till date. He feels that he has no moral right to live, because Suraj was a better person than him. He also feels that he could have taken the particular position that Suraj had taken and got hit; it was just a matter of chance that he is surviving. He considers himself a useless person, suffers from low mood and self blame, and has lost interest in everything. The last look of his friend and other horrors of combat return in his nightmare. Mohan has taken early retirement and started drinking a lot to deal with his problem. It can relieve his guilt and depression only temporarily. His family life is now disrupted. He believes he is not going to live long.

### 3.3.2 Trauma of Natural Disaster

It includes events like earthquake, cyclone, Tsunami, flood and similar other conditions. Such situations are primarily characterised by helplessness as the destructive force of nature is beyond human control. However, after the initial disaster has passed, the role of the Government and rescue operations conducted become crucial.

A case study: On December 26, 2004, Thirumal, 10, had just had his breakfast and begged his mother's permission to go for a walk on the beach before he sat for his studies. Thirumal's father was a Government employee posted on the beautiful island where they lived. Suddenly Thirumal saw a big wave erupting from the sea and heard a strange rumbling sound. He ran for his house, but never reached there; the wave was faster. He got stuck to a tree trunk and clasped it. Later on he discovered that his mother and sister had perished. Thirumal was found wandering alone amidst the debris far from his house and taken to a rescue camp. Fortunately his father was away from home and survived the disaster. Using his influence as a Government Official he could find his son rather quickly and took him away from the camp. Thirumal did not speak at all for days, and then responded only in monosyllables. He had developed a tic in the form of continuous eye blinking whenever anybody talks to him. Even after two months he had not disclosed how he discovered his mother and sister to be dead, if he saw their bodies and what he did after that. He did not weep, but wore a strange blank look on his face and ate very little. Thirumal

could not sleep peacefully, groaning and shrieking in his sleep. But he could not remember the dreams.

### 3.3.3 Trauma of Man-Made Disaster

This includes a variety of disasters like Industrial accidents (like gas leak) and long term impacts of planning insensitivity (like arsenic pollution), terrorist attacks, flood due to opening of dam gates and so on. Here anger toward the perpetrators is an essential element. You need to understand in this context that often the perpetrator is not one single person, but a government policy, an industrial company or a team of people in charge. Sometimes when a single perpetrator can be identified among the group (for example, a single terrorist who has been caught alive while others in the group had either fled or died) the hatred and anger is thrust on him. At other times, the directionless nature of anger adds to the difficulty of the victim.

A case study: Majid 22, a small scale entrepreneur, is a survivor of a big fire that burnt down a building along with a bazaar in a congested area. There was a godown of fireworks near it. Majid and other young men of the locality had long since tried to shift it from that area, but could not do it due to political pressure from different quarters. One night, Majid was awakened from sleep by his distraught father who was shouting 'Fire – fire'. Majid saw smoke entering the room from all sides. Majid and his parents somehow escaped, but all their belongings were burnt in the fire. The meagre compensation from the Government received after prolonged negotiation, was nothing compared to the loss.

After a year, Majid who used to be a smart and sociable young man, is now an anxious and moody person. He has occasional anger outbursts which goes out of proportion. He says that the moments of his escape and the cries all around come back to his mind repeatedly and he cannot get rid of them. Though he does not have nightmares, his sleep is disturbed and appetite is very low. He cannot tolerate the sound of a number of people shouting together, even if it is about a game of cricket. He expresses his extreme frustration at the way the politicians and the Government deals with safety issues. He says he has become detached about most things in the world. He is disinterested in his business also and his father has to look after it. At times he expresses his extreme anger with the local MLA, who did not pay heed to their appeals before the fire. He should be hanged, Majid opines.

### 3.3.4 Trauma due to Severe Threat to Personal Security and Safety

This includes personal accidents, rape, confinement, torture and targeted violence including domestic violence. Usually the trauma consists of extreme fear, helplessness and uncertainty. You may observe three major phases in the appraisal of personal trauma. The first is the 'Apprehension phase' (that the car is skidding, or one is being followed by a man with seemingly bad motive) and corresponding effort at control. Then comes the 'Impact Phase' when the event itself is happening and one is left helpless at mercy of the external force, and finally the post traumatic situation when one has to take charge of oneself again. This last phase may be divided in two sub phases. One is the 'Recoil phase' when fear and anxiety, and may be guilt (in case of rape and assault victims) predominates. Next comes the 'Reconstruction Phase' which starts after the initial medical treatment. You may try to diagnose PTSD as a psychiatric category at this phase. The depression, anxiety, intrusive memories and all other signs and the struggle of the person with them starts at this phase.

A case study: While driving along a narrow mountain road in the evening, Asim felt his wheels skid and he tried his best to stop the car. But it was a fraction too late

and before Asim understood anything his car was dangling at the side of the road. Asim does not remember when he unfastened the seat belt or how the door opened, but the next moment he felt himself falling down beside his car which was also spinning and falling. He got stuck to an entanglement of stones and bushes, while the car fell further down and burst into flames. Asim tried to get himself free and felt that he was unable to move his right hand. Now he felt the extreme pain and he realised that the hand had broken at the elbow. Asim reckons he had become unconscious for a while and then regained consciousness. For some moment he felt as if detached from his body. Then he heard another car passing by and shouted at the top of his voice. The passengers stopped and arranged to rescue him. During the last one year Asim has been suffering from flashbacks of the moment when he understood that the accident has actually happened. He had recurrent nightmares of the car burning below him and he often sees a burning body in it. He cannot concentrate in his office work, has become irritable and moody. He has got an exaggerated startle response to any sudden visual or auditory stimulus. He had experienced a panic attack while trying to drive a car for the first time after the accident and had abandoned trying since then. He also believes that death is after him and he would not have a full life.

## 3.4 PREVALENCE OF POST TRAUMATIC STRESS DISORDER

Since PTSD is the result of traumatic events themselves, its occurrence depends on the number of events. It has been estimated that about 9% of the general population had developed PTSD at some point in their lifetimes. It has also been observed that occurrence of PTSD would depend upon the nature of the trauma and how society looks upon it. For example about 65% of rape victims develop PTSD while 15% of Vietnam combat veterans developed the symptoms.

**Self Assessment Questions**

1) How many arousal symptoms must be present for diagnosis of Post Traumatic Stress disorder?

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2) What is the estimated life time prevalence of Post Traumatic Stress disorder?

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3) What is survivor's guilt?

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4) Write *True* (T) or *False* (F) beside the statement

   a) Intrusive thoughts characterise Post Traumatic Stress disorder (  ).

b) Children's symptoms of Post Traumatic Stress disorder are identical with that of adults ( ).

c) Post Traumatic Stress disorder may be last one's life time ( ).

## 3.5 AETIOLOGY OF POST TRAUMATIC STRESS DISORDER

Now you know that not all persons who encounter traumatic events develop PTSD in the long run. What predisposes them who succumb to the symptoms? You may learn about the biological, psychological and social factors in the section below.

### 3.5.1 Biological Factors

The biological factors include the temperamental factors that may contribute to development of vulnerable personality. Twin studies have shown that vulnerable personalities may run in families. Besides, exposure to trauma may activate the noradrenergic system. As a result the norepinephrine level is elevated. This in turn may result in exaggerated startle responses and heightened emotional arousal.

### 3.5.2 Psychological Factors

Although psychoanalytic, behavioural and cognitive approaches have tried to explain PTSD, none of them can adequately explain why some persons develop PTSD and others do not. It seems that personality and life events are very important in this regard. You must also note that ultimately there is a breaking point for every individual. Some succumb to symptoms earlier and some later. It has also been observed that the severity of symptoms is directly proportional to the severity of the trauma. For example, the symptoms in combat stress are directly related to the number of killings.

1) **Vulnerable personality and life events:** are a number of risk factors in PTSD. Some of these are being female, early separation from parents, family history of psychiatric disorder and pre-existing Anxiety or Mood disorders. Sometimes people are exposed to multiple traumas. For example, during partition of India, many people lost their land and migrated to a different place. There, instead of being provided for, they had to suffer deprivation and humiliation. Some also lost their close ones in the process. Thus, in many situations the traumatic events are multiplied, enhancing the risk of PTSD.

2) **Psychoanalytical approach:** This approach proposes that people either consciously suppress or unconsciously repress the painful memories of the traumatic event. The PTSD is the resultant of the ego's struggle to assimilate the experience into the pre-existing structure of personality. Often PTSD symptoms represent a maladaptive compromise of the ego.

3) **Learning theory approach:** This approach assumes that PTSD results from classical conditioning. This is a sort of avoidance response. A person who has suffered a terrible railroad accident would be afraid to board a train ever again as the association with the scene is terrifying.

4) **Cognitive approach:** The cognitive approach assumes that the person exposed to trauma adopts a faulty coping mechanism. The coping style of the person with PTSD is often emotion focussed rather than problem focussed. Furthermore, they often take personal responsibility for failures resulting in survivor guilt. Also the information processing of the trauma victims may be distorted. The person remains extremely sensitive to cues suggesting the event. Intrusive memory and thoughts cannot be controlled and the person is very quick to pick up certain cues that revive the memory.

5) **Existential approach:** The existential model suggests that exposure to trauma disturbs the meaning of life. Each of us develops through our experiences a number of expectations about life and relationship. For example we would expect to help a baby in distress. During traumatic events, not only these expectations are not fulfilled, but sometimes exact opposite things happen. For example a mother may throw her baby down the river to save herself. These experiences are difficult to integrate once we are back to safety. Often it develops a kind of nihilism in us and cynicism about anything good in life. The treatise by Viktor Frankl on existential problems of concentration camp survivors is a famous account of the existential viewpoint.

### 3.5.3 Socio-Cultural Factors

It has been observed that in combat related stress, when the group morale is strong and the combatants are committed to the job, the PTSD symptoms are less common and less severe. Also if after the traumatic event one is placed in a supportive environment the severe symptoms can be avoided. Indeed, the entire purpose of army training is to develop a community that supports combatant mentality and glorifies it. PTSD would be less under the circumstances. In case of rape, on the other hand, society often blames the victim thus enhancing the risk of symptoms. Adequate social support and cultural assimilation of the traumatic events help the person to struggle with the experience.

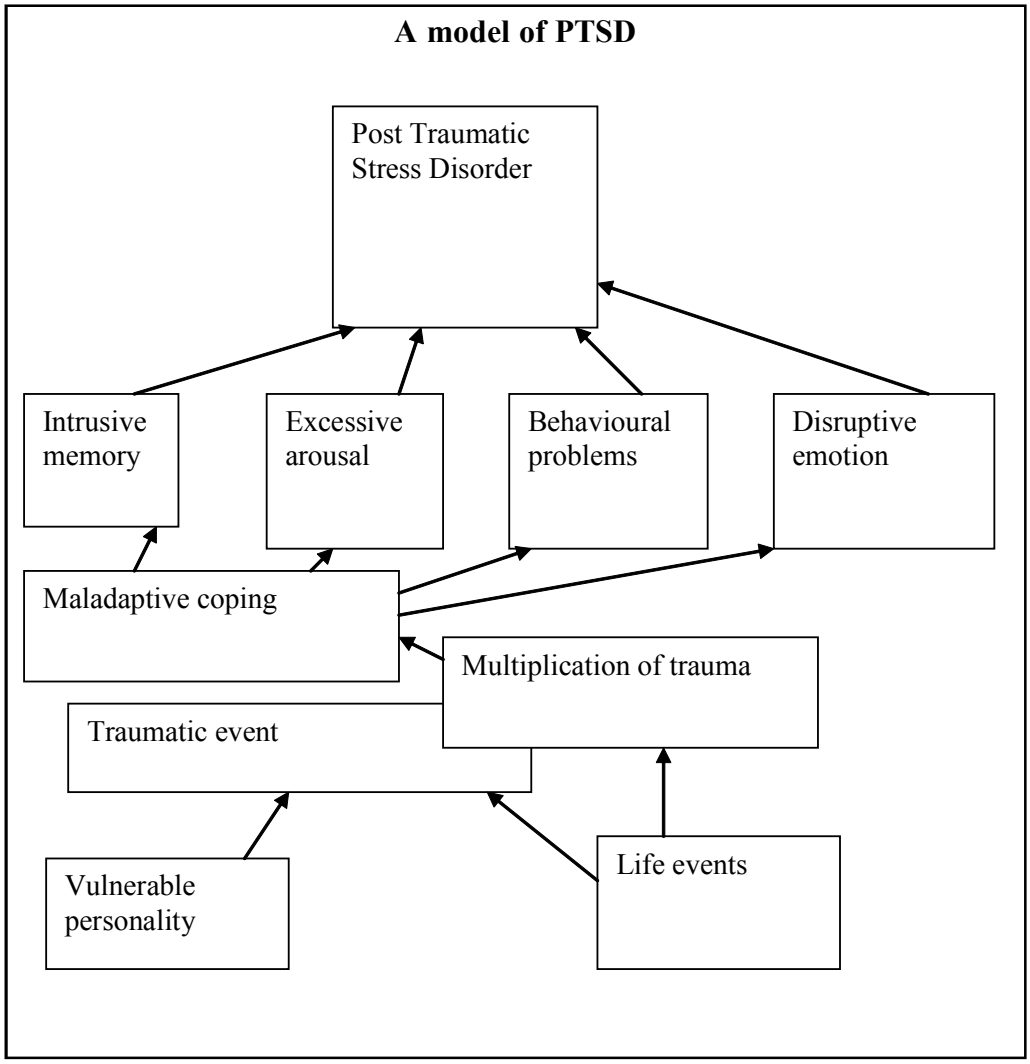


**Fig.: Aetiological factors and the major symptoms of PTSD**

# 3.6 PREVENTION AND TREATMENT OF POST TRAUMATIC STRESS DISORDER

## 3.6.1 Prevention of Post Traumatic Stress Disorder

If you know that a person is going to be exposed to extreme conditions and probable traumatic experiences, you may think of training her up as a preventive measure. Though reality may exceed the imagination, at least some information and anticipation of danger might help. You may induce *Stress inoculation training*, which usually includes three stages. Initially you may provide information about the kind of situation the person is going to face, the stresses that can occur and how people may deal with them. In the second phase you can ask them to make self statements like 'This pain is not going to last for ever, don't panic'. The third stage consists of actually exposing the person to threatening situations created for the purpose and have the person practice it. However, one cannot be prepared for all disasters in that way.

## 3.6.2 Treatment of Post Traumatic Stress Disorder

Immediately after the trauma, often a range of *psychoactive drugs* may be used with the victims of trauma to ease out the terror. Antidepressants and tranquilising medicines have found to have some effect. Especially SSRIs have been particularly successful. Apart from medicines, *Short term crisis therapy* may also be needed at these difficult times. Here you have to be proactively engaged with the persons, giving information, supporting and clarifying things as far as possible.

In the long run, however, you must provide ways for integrating the experiences into the daily life of the person. For all approaches, the key is to gradually expose the person to the memories of the trauma and to teach her the coping skills. Usually after the event or series of events, the person loses trust and sense of security in the world. Sometimes fear of losing one's stability predominates. As a therapist your first task would be to educate the person about the nature and expected symptoms of PTSD and emphasise that these can be handled.

Much about PTSD has been learnt during the World War II and Vietnam war. During World War II combat exhausted soldiers were treated with *narcosynthesis*. Sodium Pentathol (truth serum) was used on the person to induce a drowsy state. Then she was asked about the trauma and often a vivid and horrible description emerged. As the patient woke up, a discussion of the terrifying events ensued. The purpose was to make the patient believe that the events have been in the past and are no longer a threat.

In 1971, Robert Jay Lifton of Yale University worked with Vietnam war veterans and formed a *rap group*. The rap group dealt with residual guilt and anger of the war veterans. Their guilt concerned what they had to do as part of their duty in fighting guerrilla warfare. They were also angry for being left in this dubious position by their own Government. In the rap groups formed as self help groups the combatants came to share their experiences with each other and had a scope to work through the trauma.

**Psychoanalytically oriented approach**

This also requires the persons to expose themselves to the re-living of trauma. However, the emphasis here is on the interaction between pre-trauma personality disposition and the nature of the event. Following the usual technique of

psychoanalytically oriented therapy, the emphasis is on analysing defences and transference. However controlled studies examining its efficacy is not available.

**The Trauma-focused cognitive-behavioural therapy**

This is one of the most widely used techniques. You need to encourage the victim to gradually expose herself to those thoughts, feelings, and situations that are associated with the trauma and those that she has carefully tried to avoid so long. In line with the principles of Cognitive behavioural therapy, this technique also utilises exploration of core beliefs and automatic thoughts. The erroneous irrational thoughts about the traumatic event need to be analysed and understood by the person. Then you can slowly induce her to replace the erroneous thoughts with a more reality oriented one.

**EMDR (Eye Movement Desensitisation and Reprocessing)**

This is a technique that has been used for disaster victims. It was developed by Francine Shapiro in 1987. It may be conceptualised as an off-shoot of cognitive-behavioural therapy. Here you utilise the eye movements, hand taps or sounds, which are essentially different forms of rhythmic, left-right stimulation. It is based on the premise that sometimes the traumatic memories are 'stuck' in the brain in such a way that talking cannot neutralise them. It is believed that bilateral stimulation may unfreeze the brain's information processing system, and the unpleasant memories can integrated into a cohesive memory and processed.

**Existential approach**

This approach was suggested by *Viktor* Frankl who suggested that the trauma of subhuman treatment can only be neutralised by integrating it to a broader framework of existential meaning.

Frankl's approach is also known as logotherepay, the word 'logos' implying meaning. The task of the therapist is to identify the paradoxical intentions ( for example compulsive rituals) or dereflexions (exaggerated involvement with and watching over self) and make the person see a broader perspective. Often Socratic dialogue is used for this purpose. It includes a conversation between the therapist and the client to raise into consciousness the possibility of looking for meaning in one's life.

**Family therapy**

This is often essential for dealing with PTSD. As you must have imagined, trauma disrupts the entire system of relationships, bringing in a new dimension never thought about before. It is not only the individual victim, but also the family that needs to integrate the aftermath of trauma. The close persons of the victims often need guidance and help. Also, PTSD of the victim is well controlled if put within a supportive environment. If you work with the entire family, you may be able to help each member and also help each to help the other.

**Self Assessment Questions**

1) What is narcosynthesis?

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2) What is the usual coping style of persons with Post Traumatic Stress disorder?

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3) What is a rap group?

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4) Write *True* (T) or *False* (F) beside the statement

a) During stress cortical level is lowered ( ).

b) Viktor Frank's technique of dealing with Post Traumatic Stress disorder is known as EMDR ( ).

c) Integration of trauma to present existence is the key of treating Post Traumatic Stress disorder ( ).

## 3.7 LET US SUM UP

In this unit we have learnt about Post Traumatic Stress Disorder. We have learnt that this disorder, commonly known as PTSD develops after being exposed to a traumatic experience. The symptoms and clinical features have been discussed. We have also learnt that the features differ between a child and an adult, as the child has less ability to express the affect. The prevalence of these disorders in the general population and time of onset have also been discussed. We have learnt about their aetiologies in terms of biological, psychological and cultural factors. We have also learnt that persons with vulnerable personalities are more likely to develop PTSD. We have known about the preventive measure known as Stress inoculation training if there is anticipatory stress. But in most cases disaster strikes unexpectedly and one may not be prepared. Treatment includes short term crisis intervention as well as long term adjustment and integration. Different treatment approaches have been discussed.

## 3.8 UNIT END QUESTIONS

1) Discuss the symptoms and clinical features of different types of Post Traumatic Stress Disorders with case examples.

2) Distinguish between the usual clinical features of Post Traumatic Stress Disorder of children and adults.

3) Discuss the aetiological factors of Post Traumatic Stress Disorder.

4) Discuss the prevention technique of Post Traumatic Stress Disorder.

5) Discuss the treatment options of Post Traumatic Stress Disorder.

## 3.9 GLOSSARY

**Post traumatic stress disorder** : Post Traumatic Stress Disorder (PTSD) is a psychiatric condition developed as an aftermath of severe trauma often involving violence and demolition. It is characterised by intrusive memory of the trauma, excessive arousal, behavioural problems and emotional difficulties.

**Survivor's guilt** : When a person's close one's die in a disaster or combat the person tends to blame oneself for letting them die. This is known as survivor's guilt.

**Stress inoculation training** : A stage by stage preparation for an apprehended traumatic experience. This involves information, training of coping techniques and practice of techniques in simulated stressful conditions.

**Trauma focussed cognitive behavioural therapy** : In Trauma-focused cognitive-behavioural the victim is encouraged to gradually expose herself to the thoughts, feelings, and situations that are associated with the trauma. The erroneous irrational thoughts about the traumatic event need to be analysed and replaced with a more reality oriented one.

**Narco synthesis** : Injection of Sodium Pentathol to induce a drowsy state in the person with Post traumatic Stress Disorder and allow emergence of the traumatic memory. Later on, in awakened state, this memory is integrated to the present.

**Logo therapy** : 'Logos' means meaning. Logo therapy refers to Viktor Frank's proposed mode of therapy where it is believed that trauma of subhuman treatment can only be neutralised by integrating it to a broader framework of existential meaning.

**EMDR** **:** EMDR (Eye Movement Desensitisation and Reprocessing) is a technique developed by Francine Shapiro in 1987. Here you utilise the eye movements, hand taps or sounds, which are essentially different forms of rhythmic, left-right stimulation. It is based on the premise that sometimes the traumatic memories are 'stuck' in the brain and bilateral movement unfreezes them.

## 3.10 SUGGESTED READINGS

Kaplan, H. I. & Sadock, B. J. *Synopsis of Psychiatry*. Philadelphia: Lippincott Williams.

Semple, D., Smyth, R., Burns, J., DArjee, R. & McIntosh, A. (2005) *Oxford Handbook of Psychiatry*. London: OUP