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Post-Traumatic Stress Disorder: Causes, Diagnosis, and Treatment

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Trauma

- About 6 of every 10 men (60%)
- 5 of every 10 women (50%)
- Women more likely to experience sexual assault and child sexual abuse
- Men are more likely to experience accidents, physical assault, combat, disaster, or to witness death or injury
- Post-traumatic stress disorder (PTSD) can happen to anyone

Post-Traumatic Stress Disorder: What is It?

- An anxiety disorder that develops in reaction to physical injury or severe mental or emotional distress
- A chronic impairing disorder harmful to individuals both psychologically and physically
- A disabling consequence of traumatic events
- May persist, unremitting, for years and decades in a subset of trauma-exposed survivors
- It is a normal response to abnormal events

Who Gets Post-Traumatic Stress Disorder

- Develops in some people who have experienced a shocking, scary, or dangerous event
- War veterans, children, and people who have been through a physical or sexual assault, abuse, accident, disaster, or many other serious events
- Those who have suffered previous traumatic events
- A person may have several unhealed layers of trauma
- 7-8 out of every 100 people will experience PTSD at some point in their lives
- Affects 7-8% of the population
- About 8 million adults have PTSD in the U.S. during a given year, which is only a small portion of those who have gone through a trauma
- About 10 of every 100 women (or 10%) develop PTSD sometime in their lifetimes
- About 4 of every 100 men (4%) develop PTSD sometime in their lives

Who Gets Post-Traumatic Stress Disorder

- 15-43% of girls experience at least one trauma
- 14-43% of boys experience at least one trauma
- Of these children, 3-15% of girls will develop PTSD
- 1-6% of boys will develop PTSD
- Operation Iraqi Freedom (OIF) and Enduring Freedom (OEF): about 11-20 of every 100 veterans
- Gulf War (Desert Storm): about 12 of every 100 Gulf War veterans
- Vietnam War: about 15 of every 100 Vietnam veterans

Causes of Post-Traumatic Stress Disorder

- Can include inherited mental and personality traits
- The way hormones and chemicals are regulated by the brain when responding to stress
- Serious road accidents
- Violent personal assaults, including sexual assault, mugging, or robbery
- A traumatic birth
- Prolonged sexual abuse, violence, or severe neglect
- Military combat
- Being held hostage
- Terrorist/domestic attacks
- Natural disasters
- Diagnosis of a life-threatening condition
- Unexpected severe injury or death of a close family member or friend

Causes of Post-Traumatic Stress Disorder in Children

- Sexual or physical abuse
- Neglect
- Floods
- School shootings
- Car crashes
- Fires
- War
- Friend’s suicide
- Seeing violence

Causes of Post-Traumatic Stress Disorder in Veterans

- Combat
- Military sexual trauma

Same Event: Different Outcomes

- Many people experience similar scary events, though not everyone who goes through something traumatic will experience PTSD
- It is normal to experience fear during a traumatic situation and fear triggers changes in the body to help defend against or avoid danger
- While everyone will experience a range of reactions after trauma, most people will recover from their initial symptoms

Who is at Risk?

- Those with a history of depression or anxiety
- Those who don’t receive much support from family or friends
- Genetic factors (for example, having a parent with a mental health problem)
- History of child abuse/neglect (example: veterans who develop PTSD due to combat exposure often have a history of child abuse/neglect)
- Lower education
- Stressful, limited living conditions
- Impaired executive function
- Higher emotional reactivity
- Women are more likely to develop PTSD than men
- Repeated traumas

Who is at Risk?

- Those who experience very severe trauma
- Lack of support system when trauma occurs
- Extra life stressors following trauma (e.g., loss of a job, loved one, home)
- The type of traumatic event. For example, events such as rape or sexual assault are more likely to lead to PTSD than other events

Symptomology of Post-Traumatic Stress Disorder

- PTSD follows a distinct triggering event and has a clear onset point
- Early PTSD symptoms develop within days of trauma exposure, some up to three months after an event, or some develop symptoms later
- Instead of getting better after a traumatic event, a person becomes worse, becoming more anxious and fearful
- Many trauma-exposed individuals are brought to the attention of emergency care services and helpers
- Opportunity to detect survivors at risk and provide preventative interventions

Hormones and Traumatic Events

- When in danger, the body produces stress hormones such as adrenaline to trigger a reaction in the body
- This “fight-or-flight” reaction helps to deaden the senses and dull pain
- People with PTSD continue to produce high amounts of fight-or-flight hormones, even when there is no danger
- This may be responsible for the numbed emotions and hyperarousal experienced by some with PTSD

Post-Traumatic Stress Disorder Symptoms

- Those who continue to experience symptoms may be diagnosed with PTSD
- Must last more than a month and be severe enough to interfere with relationships or work to be considered PTSD
- Some people recover within six months, while others have symptoms that last much longer
- The condition can become chronic

Locking in the Trauma

- When a person experiences trauma, it becomes locked in its own memory network as it was experienced, along with the images, physical sensations, tastes, smells, sounds, and beliefs as if frozen in time in the body and the mind

The Stress Response

- The areas of the brain involved in the stress response include the amygdala, hippocampus, and prefrontal cortex
- Traumatic stress is also associated with increased cortisol and norepinephrine responses to stressors
- Cortisol strengthens an emotional event, causing the memory to become more vivid
- Symptoms of PTSD are hypothesized to represent the behavioral manifestation of stress-induced changes in brain structure and function

Changes to the Brain

- Traumatic stress has a broad range of effects on brain function and structure, as well as on neuropsychological components of memory

Changes in the Brain: Hippocampus

- The hippocampus is part of the limbic system and is responsible for memory and emotions
- Part of the brain responsible for learning
- The hippocampus plays a critical role in the formation, organization, and storage of new memories as well as connecting certain sensations and emotions to these memories (e.g., smell triggers memory)
- The hippocampus is a processing center that moves memories into long-term memory
- Senses are heightened during traumatic events, making the memory more intense
- The memory is recorded with very strong emotions
- May not remember consciously, but subconsciously
- Traumatic memories become stuck and brain is unable to learn new information as well
- Short-term recall becomes impaired
- In PTSD, the hippocampus is smaller in size, stress inhibits its growth

Changes in the Brain: Hippocampus

- The hippocampus remembers trauma, memorizes facts, and recalls events
- If the hippocampus is where learning and memory take place, it is especially impactful to children who are experiencing traumatic stress
- The diminished ability to learn and remember in school is setting them up for a lifetime of struggle
- People with PTSD often have problems experiencing emotions (numbing) and problems with memory
- The malfunctioning hippocampus may prevent flashbacks and nightmares from being properly processed, so the anxiety doesn't reduce over time
- Can cause fragmentation of memory in early abuse survivors

Changes in the Brain: Amygdala

- The amygdala is an almond-shaped set of neurons located deep in the brain's medial temporal lobe
- The amygdala is connected to the hippocampus and is part of the limbic system
- Responsible for the response and memory of emotions, especially fear
- Signals the brain to release stress hormones
- In PTSD, there is increased function in the amygdala

Changes in the Brain: Medial Prefrontal Cortex

- Responsible for decision-making
- This part of the brain inhibits amygdala function through modulating emotional responsiveness
- PTSD is associated with decreased function in the medial prefrontal cortex
- Correlation between increased amygdala functioning and decreased medial prefrontal function with traumatic reminders
- Poor decision-making ability can lead to repeated traumas

Diagnosis of Post-Traumatic Stress Disorder

- First introduced in 3rd edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM) in 1980
- With the publication of the DSM-5, PTSD was moved out of the anxiety category and placed under a new category of “trauma and stressor-related disorders”
- Symptoms lead to distress or difficulty coping with work or relationships, and they must not be due to the use of medication, other substances, or another health condition
- Symptoms must last for longer than four weeks

Three Types of Post-Traumatic Stress Disorder

1. Acute PTSD
   - Symptoms last for less than three months
2. Chronic PTSD
   - Symptoms last at least three months
3. Delayed-onset PTSD
   - Symptoms manifest at least six months following a traumatic event

Post-Traumatic Stress Disorder: Current Diagnosis Criteria

- In the DSM-5, PTSD is classified into 20 symptoms within four clusters
  - Cluster 1: intrusion
  - Cluster 2: active avoidance
  - Cluster 3: negative alterations in cognitions
  - Cluster 4: mood and marked alterations in arousal and reactivity

Intrusion or Intrusive Symptoms

- Previously called re-experiencing symptoms
- Include involuntary, distressing images, thoughts, or memories
- Flashbacks or dissociative reactions where it seems as if the trauma is reoccurring
  - Flashbacks can be triggered by something you see, hear, or smell (e.g., car backfiring, watching a movie, media coverage of disasters)
- Distressing dreams and/or nightmares related in content or emotion to the trauma
- Intense psychological distress at reminders of the trauma
- Intense physiological distress, often referred to as body memory

Active Avoidance

- Staying away from places, events, or objects that reminds them of the traumatic experience
- Avoiding thoughts or feelings related to the traumatic event
- Refuse to discuss event
- Many people with PTSD try to push memories of the event out of their mind, often distracting themselves with work or hobbies
- Some people attempt to deal with their feelings by trying not to feel anything at all – or emotional numbing
- Leads to person becoming isolated and withdrawn and may give up activities they used to enjoy

Negative Alterations in Cognitions

- Trouble remembering key features of the traumatic event
- Negative thoughts about oneself or the world
  - Unworthy, worthless, unstable, bad person, bad mother, wife, son, employee, etc.
  - I am…life is…people are…the world is…
- Uncontrollable, looping thoughts
- Distorted feelings like guilt, blame, or shame
- Loss of interest in enjoyable activities
- Short-term memory loss
- Confusion
- Helplessness/hopelessness
- Feeling detached and estranged from others
- Impaired judgement
- Reduced interest in life

Negative Alterations in Cognitions

- Questioning spiritual beliefs
- Lack of trust in others, including friends and family
- Moral injury
  - Found among those involved in sexual assault who blame themselves for the assault
  - Found often resulting from transgressions during wartime among military personnel with deeply held moral and ethical beliefs

Mood and Marked Alterations in Arousal and Reactivity

- Jumpiness or exaggerated startle response, hypervigilance (e.g., sit with back to the wall)
- Heart palpitations
- Sleep disturbance
- Hurt
- Depression
- Phobias
- Anxiety
- Irritability and/or aggressive behavior
- Angry outbursts
- PTSD significantly associated with anger, especially among military
- Hypersensitive to possible dangers
- Feeling tense
- Feeling scared/terror

Mood and Marked Alterations in Arousal and Reactivity

- Reckless or self-destructive behaviors
- Overprotective of family/children
- Problems with concentration
- Suspiciousness
- Fear of being under attack/in danger
- Feeling overwhelmed/can’t handle it
- Feeling out of control
- Fear of the event happening again
- Gambling
- High-risk sexual behaviors
- Violent behavior
- Suicidal/self-harm behavior
- Anniversary dates

Co-Occurring Diagnoses

- Depression
- Generalized anxiety
- Agoraphobia
- Panic disorder
- Dissociative disorder
- Substance abuse disorder/alcohol use disorder

Dissociative Subtype

- There is a reduced awareness of surroundings (dazed feeling)
- Amnesia – a specific and significant block of time passes that cannot be accounted for, i.e., person has no memory of traumatic event
- Person experiences depersonalization – experiences of feeling detached from one's own mind or body
- Derealization – experiences in which the world seems unreal, dreamlike, or distorted
- Dissociation is compartmentalization, or disconnection among aspects of self and experience
- Dissociation is a defense mechanism

Post-Traumatic Stress Disorder: Diagnostic Criteria

- According to the DSM-5, PTSD is summarized as an exposure to a stressor that is accompanied by at least one intrusion symptom, one avoidance symptom, two negative alterations in cognitions and mood symptoms, and two arousal and reactivity symptoms, persisting for at least one month with functional impairment

Problems that Correlate with Post-Traumatic Stress Disorder

- Depression
- Substance abuse
- Physical health problems
- Suicide ideation and behaviors
- Difficulty with family functioning/disruption among children of adults with PTSD
- Unemployment
- Short-term memory loss

Physical Symptoms

- There may be physical symptoms, though they are not included in the DSM-5 criteria:
  - Sweating, shaking, headaches, dizziness, stomach problems, aches and pains, and chest pain
  - A weakened immune system can lead to more frequent infections
  - Sleep disturbances can result in tiredness and other problems
  - Physical problems include higher rates of neurological, respiratory, musculoskeletal, and cardiovascular symptoms

Children and Post-Traumatic Stress Disorder

- Children with PTSD may experience the following:
  - Bedwetting
  - Being unusually anxious about being separated from a parent or other adult
  - Re-enact/act out the traumatic event through play, drawings, or stories
  - Trouble sleeping/nightmares
  - Avoid school
  - Problems in schoolwork
  - Irritable/aggressive

Adolescents and Post-Traumatic Stress Disorder

- Older children, ages 12-18, may experience symptoms more like adults, including:
  - Depression
  - Anxiety
  - Withdrawal
  - Reckless behavior, including substance abuse or running away

Layers of Prevention

- There are three types of PTSD prevention:
  - **Primary prevention** – before the traumatic event/avoiding event (e.g., alerting authorities of someone who threatens a mass shooting)
  - **Secondary prevention** – quick response and intervention immediately after a traumatic event (e.g., pharmacological options, teaching anxiety reduction techniques) to mitigate the development of early symptoms
  - **Tertiary prevention** – treating someone after they have begun experiencing symptoms of PTSD (e.g., psychotherapy), thus increasing the likelihood of remission

Prevention

- Intervention soon after trauma is critical for long-term outcomes as over time traumatic memories become resistant to treatment

Treatment of Post-Traumatic Stress Disorder

- Psychological interventions:
  - Cognitive behavioral therapy (CBT)
  - Cognitive processing therapy (CPT)
  - Cognitive therapy (CT)
  - Cognitive restructuring (CR)
  - Eye Movement Desensitization Reprocessing (EMDR)
  - Exposure-based therapies
  - Hypnosis/hypnotherapy
  - Brief eclectic psychotherapy

Healthy Coping

- Healthy ways of coping include:
  - Avoiding alcohol and drugs
  - Spending time with loved ones and trusted friends
  - Maintaining normal routines for meals, exercise, and sleep
  - Staying active
  - Seeking professional help

When to Get Help

- When symptoms last longer than a few months
- Are very upsetting/distressing
- Disrupt your daily life
- Affect your relationships
- Affect your ability to work

Two Main Sources of Help

- Psychotherapy or counseling
- Psychiatry/medications

Psychological Interventions

- All therapies work to reduce the acute symptoms of PTSD
- Studies show that all studied treatments led to lasting improvements in individual outcomes
- Exposure-based treatments exhibited the strongest evidence of efficacy with high strength of evidence

Cognitive Behavioral Therapy

- Challenges the patient’s beliefs about the meaning and current implication of the trauma
- Attempts to change the way patients react to trauma-related reminders
- Attempts to remove behavioral restrictions and rules derived from the traumatic experience
- Attempts to reduce the negative appraisal of self and others
- Addresses maladaptive thinking and helps patients overcome difficulties by identifying and changing dysfunctional thinking
- Feelings and behaviors are determined by the way an individual interprets the trauma
- Changes in thinking are presumed to lead to changes in emotion and behavior
- Offered individually or in a small group
- Involves several weekly sessions
- Patients are given homework (e.g., recording events, thoughts, and emotions)
- Treatment may continue for over three months
- Requires significant skills from therapists

Cognitive Behavioral Therapy Model

- Thoughts lead to feelings, which impacts behavior. Behavior leads to additional negative thoughts and a cycling effect occurs

Cognitive Behavioral Therapy Model of Panic

- A patient has thoughts related to their physical symptoms, such as, “I’m going crazy” or “People are noticing what is happening”
- This leads to increased feelings of anxiety
- Anxiety leads to physical symptoms of anxiety such as a rapid heartbeat, sweating, or dizziness
- The combination of thoughts, emotions, and physical symptoms leads to behavioral issues, such as leaving the situation or avoiding situations where panic symptoms might occur

Cognitive Processing Therapy

- CPT begins with psychoeducation regarding PTSD thoughts and emotions. The patient becomes more aware of the relationship between thoughts and emotions and begins to identify “automatic thoughts” that may be maintaining the PTSD symptoms
  - The patient writes an impact statement that details current understanding of why the traumatic event occurred and the impact it has had on beliefs about self, others, and the world
- The patient writes a detailed account of the worst traumatic experience, which the patient reads in the next session to try and break the pattern of avoiding thoughts and feelings associated with the trauma
  - The therapist uses Socratic questioning and other strategies to help the patient question his or her unhelpful thoughts about the trauma (e.g., self-blaming thoughts) in order to modify any maladaptive thinking

Cognitive Processing Therapy

- Once the patient has developed skills to identify and address unhelpful thinking, she or he uses those skills to continue evaluating and modifying beliefs related to traumatic events
  - At this point, the therapist is helping the patient develop the ability to use these adaptive strategies outside of treatment to improve overall functioning and quality of life

Prolonged Exposure Therapy

- Prolonged exposure therapy (PE) is an intervention strategy commonly used in cognitive behavioral therapy to help individuals confront fears
  - Prolonged exposure is a specific type of cognitive behavioral therapy that teaches individuals to gradually approach trauma-related memories, feelings, and situations
- Prolonged exposure is typically provided over a period of about three months with weekly individual sessions, resulting in 8-15 sessions overall
- Imaginal exposure occurs in session with the patient describing the event in detail in the present tense with guidance from the therapist. Together, patient and therapist discuss and process the emotion raised by the imaginal exposure in session
  - The patient is recorded while describing the event so that she or he can listen to the recording between sessions, further process the emotions, and practice the breathing techniques

Prolonged Exposure Therapy

- In vivo exposure, or confronting feared stimuli outside of therapy, is assigned as homework. The therapist and patient together identify a range of possible stimuli and situations connected to the traumatic fear, such as specific places or people
  - They agree on which stimuli to confront as part of in vivo exposure and devise a plan to do so between sessions
  - The patient is encouraged to challenge him- or herself but to do so in a graduated fashion so as to experience some success in confronting feared stimuli and coping with the associated emotion

Eye Movement Desensitization Reprocessing

- Processing of a specific memory is generally completed within one to three sessions. EMDR therapy differs from other trauma-focused treatments in that it does not include extended exposure to the distressing memory, detailed descriptions of the trauma, challenging of dysfunctional beliefs, or homework assignments
- The therapist and client work together to identify targets for treatment. Targets include past memories, current triggers, and future goals
- The therapist utilizes bilateral stimulation through eye movements or through other means to activate the memory that is being targeted in the session
- Identifies and assesses each of the memory components: image, cognition, affect, and body sensation
- The client focuses aspects of the memory, while engaging in eye movements or other bilateral stimuli (BLS)

Eye Movement Desensitization Reprocessing

- Stimulates accelerated information processing, a rapid free association of information between memory networks that enables clients to draw on information where they might find insight and understanding
- Then the client reports whatever new thoughts have emerged
- This process continues until the client reports that the memory is no longer distressing

Pharmaceutical Treatments of Post-Traumatic Stress Disorder

- Antidepressants, including selective serotonin reuptake inhibitors (SSRIs)
- Serotonin and norepinephrine reuptake inhibitors (SNRIs)
- Monoamine oxidase inhibitors (MAOIs)
- Sympatholytic drugs such as alpha-blockers, antipsychotics, anticonvulsants, and benzodiazepines

Antidepressants and Post-Traumatic Stress Disorder

- Antidepressant treatments have been shown to block the effects of stress and promote neurogenesis, which is the growth and development of nervous tissue
- They have effects on the hippocampus to counteract the effects of stress
- They promote memory and increased hippocampal volume in PTSD

Avoiding Help

- Often clients with PTSD avoid help for many different reasons, including:
  - Not knowing what they need
  - Feeling embarrassed or weak
  - Feeling they will lose control
  - Not wanting to burden others
  - Doubting it will be helpful or that others won't understand
  - Tried to get help in the past, but failed
  - Want to avoid thinking or feeling about the event
  - Feeling that others will be disappointed or judgmental
  - Not knowing where to get help

What Interferes with Support

- Rushing to tell client that he/she will be okay or that they should just "get over it"
- Discussing your own personal experiences without listening to the other person's story (take caution with self-disclosure)
- Stopping the client from talking about what is bothering them
- Giving advice
- Telling client that they are lucky it wasn't worse

How to Give Support

- Show interest, attention, and care
- Find an uninterrupted time and place to talk
- Be free of expectations and judgements
- Show respect for client's reactions and ways of coping
- Acknowledge that this type of trauma can take time to resolve
- Help brainstorm positive ways to deal with their reactions
- Talk about expectable reactions to trauma and healthy coping
- Believe that the client is capable of recovery
- Offer to talk as often as needed

More Ways to Help

- Educate clients that avoidance and withdrawal are likely to increase distress
- Teach clients that social supports can aid in their recovery
- Encourage client to talk to a professional counselor (if that isn't your role), clergy, or medical professional

Resources

- Disaster Distress Helpline 1-800-985-5990
  - Or text TalkWithUs to 66746 to connect with a trained professional from the closest crisis counseling center within the network
- Crisis text line: help is available 24 hours a day in the U.S. by texting START to 741741
- If suicidal,
  - Contact 911
  - National Suicide Prevention Line at 1-800-273-TALK (8255)

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