Epidemiology, Assessment, and Treatment of PTSD

Center for Deployment Psychology
Uniformed Services University of the Health Sciences

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Epidemiology of PTSD
PTSD is a disorder of non-recovery
Most Individuals Recover from Trauma: Course of PTSD over First 3 Months

Time Course of Post Trauma Reactions

- Acute stress reaction
- Acute stress disorder
- Acute PTSD
- Chronic PTSD
- Delayed-onset PTSD
Lifetime Prevalence of Trauma:
DSM-III vs DSM-IV Trauma Definitions

Individuals’ Reactions to Trauma
Are Heterogeneous
Rates of PTSD
US Military Samples

Behavioral Health Data

Invisible Wounds of War, RAND Corp, 2008
Behavioral Health Data

Combat Exposure in Iraq

### Combat Exposure in Afghanistan (MHAT-IV)

<table>
<thead>
<tr>
<th>Event</th>
<th>Percent Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeing Dead Bodies/Remains</td>
<td>66.0%</td>
</tr>
<tr>
<td>Shot At/Receiving Small Arms Fire</td>
<td>74.0%</td>
</tr>
<tr>
<td>Being Attacked/Ambushed</td>
<td>73.0%</td>
</tr>
<tr>
<td>Receiving Artillery, Rocket, Mortar Fire</td>
<td>93.8%</td>
</tr>
<tr>
<td>Knowing Someone Killed/Severely Injured</td>
<td>83.0%</td>
</tr>
<tr>
<td>Clearing/Searching Homes</td>
<td>52.0%</td>
</tr>
<tr>
<td>Shooting/Directing Fire at Enemy</td>
<td>75.0%</td>
</tr>
<tr>
<td>Ill/Injured Women/Child Couldn’t Help</td>
<td>39.0%</td>
</tr>
<tr>
<td>Seeing Dead/Serious Inj. Americans</td>
<td>62.0%</td>
</tr>
<tr>
<td>Handling/Uncovering Human Remains</td>
<td>56.0%</td>
</tr>
<tr>
<td>Resp. for Death of Enemy Combatant</td>
<td>52.0%</td>
</tr>
<tr>
<td>Participating in Demining Ops</td>
<td>42.0%</td>
</tr>
<tr>
<td>Buddy Shot/Hit Near You</td>
<td>56.0%</td>
</tr>
<tr>
<td>Close Call/Hit but Saved by Gear</td>
<td>11.0%</td>
</tr>
</tbody>
</table>

### Relationship Between Number of Fire Fights & Mental Health Status (MHAT-IV)

- **Per cent reporting sxs**
  - **Acute Stress Symptoms**
  - **Any Psych Problems**

- **Low Combat**
- **Medium Combat**
- **High Combat**

![Graph showing the relationship between number of fire fights and mental health status](image-url)
MHAT-VI: Acute Stress Increases with Increases in Combat Experiences

Figure 9: Combat Experiences and Acute Stress
Multiple Deployers from MHAT-Reports

Possible Trajectories of Emotional Responses to Trauma
(Adapted from Foy, 2009)
PTSD Criteria – DSM-IV

A: Stressor Criterion
B: Re-experiencing
C: Avoidance
D: Arousal
E: Time Criterion
F: Functional Impairment or Distress

The defining symptoms alone, without connections to the stressor, are not regarded as PTSD (Breslau, 2002).

DSM-IV Definition of a Trauma Criterion A

A1 Experienced, witnessed, or been confronted with an event that involves actual or threatened death or injury, or a threat to the physical integrity of oneself or others. (objective)

A2 Response involved intense fear, horror or helplessness. (subjective)
Symptom Criteria for PTSD

Acute Stress Disorder (ASD):
DSM-IV Diagnostic Criteria

**Dissociation** (at least 3)
- amnesia, detachment, numbing, reduced awareness of surroundings, derealization, depersonalization

**Reexperiencing** (at least 1)
- Thoughts, nightmares, flashbacks, emotional reactions, physiological reactions

**Avoidance** (at least 1)
- Avoid thoughts, avoid reminders

**Arousal** (at least 1)
- Sleep disturbance, concentration problems, anger, hypervigilance, startle
ASD and PTSD

Harvey & Bryant, 1998
Rates of PTSD are Influenced by Gender and Type of Trauma

Kessler et al., 1995

Impact of PTSD on Social Support

Can reduce available social support
- Emotional numbing
- Detachment
- Hostility and aggression
- Distrust of others
- Social problem solving deficits

Can exhaust support and resources
I would be seen as weak

My unit leadership might treat me differently

Members of my unit might have less confidence in me

My leaders would blame me for the problem

It would harm my career

Barriers to Care and Mental Health Risk

There would be difficulty getting time off work for treatment

It is difficult to schedule an appointment

I don't trust mental health professionals

I don't know where to get help

I don't have adequate transportation

Agree or Strongly Agree, %
Summary – Epidemiology of PTSD

Greater trauma exposure in theater is associated with higher rates of combat stress reactions. Combat stress reactions are normal, however, and for most, they are transitory. The intensity of distress after a trauma may alter the course of recovery.

No one vulnerability model exists for PTSD, but exaggerated and lingering reactions defines the disorder. Social support is important for recovery from PTSD. Positive leadership and good unit cohesion appear to mitigate the negative impact of combat trauma.

Assessment of PTSD
PTSD Self-Report Measures

- Primary Care PTSD Screen = 4 items
- PTSD Check List - Military (PCL-M) = 17 items
- PTSD Check List – Civilian (PCL-C) = 17 items
- Impact of Event Scale - Revised (IES-R) = 22 items
- Mississippi Combat Scale for PTSD = 35 items
- Mississippi Civilian Scale for PTSD = 35 items
- PTSD Symptom Scale Self Report (PSS-SR) = 17 items
- Posttraumatic Diagnostic Scale (PDS) = 49 items
- PK Scale of the MMPI-2 = 46 items
- PTSD Cognitions Inventory (PTCI) = 36 items
# Primary Care PTSD Screen

(Veterans – cut score 2)

- Population – 10000
- Base rate – 10%
- Sensitivity = .93
- Specificity = .79
- PPP = .33
- NPP = .99
- Accuracy = .80

<table>
<thead>
<tr>
<th>True Status</th>
<th>+</th>
<th>-</th>
<th>Total</th>
</tr>
</thead>
</table>
| Test Status | + | True Positive | False Positive | Total
| 930 | 930/1000 = 0.93 | 1890 | 2820
| - | False Negative | True Negative | Total
| 70 | 7110 | 7110/7180 = 0.99 | 7180
| 1000 | 9000 | 10000 |

- Sensitivity = .93
- Specificity = .79
- PPP = .33
- NPP = .99
- Accuracy = .80

## What Makes a Good PTSD Self-Report Measure?

- Relatively quick and easy to administer
- Reading level and language appropriate for patients taking the screen
- Reliable or consistent over time
- Assesses what it is designed to and does so reliably across time and across various populations
Factors To Keep in Mind with PTSD Self-Report Measures

They do not provide a diagnosis or prognosis
Often no validity scales
Can be false positives and false negatives
Often use dichotomous questioning
Often no intensity or frequency scales
Secondary gain / malingering

Importance of PTSD Structured Diagnostic / Clinical Interview

“No psychological test can replace the focused attention, visible empathy, and extensive clinical experience of a well-trained and seasoned trauma clinician.”

PTSD Structured Interviews

Clinician-Administered PTSD Scale (CAPS)
PTSD Symptom Scale - Interview (PSS-I)
Structured Interview for PTSD (SIP)
Structured Clinical Interview for DSM-IV (SCID)
PTSD Module
Mini International Neuropsychiatric Interview (MINI)
PTSD Module

Additional PTSD Assessment Considerations

Reactions of fear, helplessness or horror may not be identified during assessment if dissociated or repressed.

No history of trauma rules out PTSD, but the presence of it does not mean PTSD.

Re-experiencing and avoidance symptoms may occur on four levels: 1) emotionally; 2) cognitively; 3) behaviorally; and 4) physically.

PTSD can be precipitated by a non-traumatic stressor yet it originates from earlier traumatic event.

Multimethod Approach to PTSD Assessment

Keane et al. (2000; 2008) recommend:
A structured diagnostic interview and self-report measures
Psychophysiological measures (if possible)
Assessment of symptom frequency, intensity and duration
Identification of Criterion A event to which subsequent symptoms are endorsed; measurement of both A1 & A2
A culturally sensitive test battery
Addition of indices of functional domains
Addition of indices of comorbid conditions
Comorbid Conditions to Assess for and Monitor: Suicidal Behavior

- PTSD patients are 6 times more likely to attempt suicide than the general population.

- PTSD has higher risk of increased number of suicide attempts than all other anxiety disorders.

- 19% of patients with PTSD will attempt suicide.

Kessler et al. Arch Gen Psychiatry. 1999;56:617

Comorbid Conditions to Assess for and Monitor: Depression

Which complaints reflect depression?
- Sleep disturbance
- Flat affect/ disliked mood
- Memory problems
- Concentration problems
- Low self esteem
- Problems with intimacy
- Low energy
- Easily fatigued
- Low motivation
- Sense of guilt
- Feeling worthless
- Foreshortened sense of future
- Feeling hopeless

Which complaints reflect PTSD?
- Low self esteem
- Problems with intimacy
- Feeling helpless
- Suicidal thoughts

hijf
Comorbid Conditions to Assess for and Monitor: TBI

PTSD
- Flashbacks
- Avoidance
- Hypervigilance
- Nightmares
- Re-experiencing phenomenon

TBI
- Irritability
- Cognitive Deficits
- Insomnia
- Depression
- Fatigue
- Anxiety
- Headache
- Sensitivity to light or noise
- Nausea
- Vomiting
- Vision Problems
- Dizziness

Comorbid Conditions to Assess for and Monitor: Substance Use Disorders

Estimates of trauma exposure:
- In general population: 40% - 70%
- In SUD population: 35% - 90%

Estimates of PTSD
- In general population: 5% - 12.5%
- In SUD population: 30% - 50%

Estimates of Alcohol Dependence
- In general population: 7% - 9%
- In PTSD population: 30% - 68%
Comorbid Conditions to Assess for and Monitor: Health-Related Problems

Hoge et al., Am J Psychiatry, 2007; 164, 150-153

How common is anger in veterans with PTSD?

Veterans with PTSD respond with more hostility in non-provoking interpersonal interactions (Beckham et al., 1996) & with trauma cues (Pitman et al., 1987; Taft et al., 2006)

Anger/Hostility associated with combat-related PTSD more than with PTSD related to other traumas (Orth & Wieland, 2006)

How common is anger in veterans with PTSD?

Ft. Carson homicides:
- 43% met diagnostic criteria for PTSD or ASD
- 64% had history of law violations (43%DV, 29%Assault, 14%Forcible entry)
Comorbid Conditions to Assess for and Monitor: Relationship Problems with Partners

Summary – Assessment of PTSD

PTSD self-report measures should be used with a clinical interview to determine a PTSD diagnosis.

PTSD self-report measures are helpful in tracking client progress before, during, and after the course of PTSD treatment.

Assessment of conditions comorbid with PTSD is important because associated problems are common.

In the military in particular, stigma and secondary gain, among other factors, may affect how clients rate symptoms of PTSD on self-report measures.
BATTLEMIND Skills

<table>
<thead>
<tr>
<th>WHILE DEPLOYED</th>
<th>HOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buddies (cohesion) vs.</td>
<td>Withdrawal</td>
</tr>
<tr>
<td>Accountability vs.</td>
<td>Controlling</td>
</tr>
<tr>
<td>Targeted Aggression vs.</td>
<td>Inappropriate Aggression</td>
</tr>
<tr>
<td>Tactical Awareness vs.</td>
<td>Hypervigilance</td>
</tr>
<tr>
<td>Lethally Armed vs.</td>
<td>“Locked and Loaded” at Home</td>
</tr>
<tr>
<td>Emotional Control vs.</td>
<td>Anger/Detachment</td>
</tr>
<tr>
<td>Mission OPSEC vs.</td>
<td>Secretiveness</td>
</tr>
<tr>
<td>Individual Responsibility vs.</td>
<td>Guilt</td>
</tr>
<tr>
<td>Non-Defensive Driving vs.</td>
<td>Aggressive Driving</td>
</tr>
<tr>
<td>Discipline and Ordering vs.</td>
<td>Conflict</td>
</tr>
</tbody>
</table>
Overview of Evidence-Based Treatments and Commonly Used Strategies for PTSD

PTSD Treatment Modalities

- Individual
- Group (for service members or spouses)
- Family
- Couples
- Internet / Telehealth

*We will focus on individual treatment modalities*
Evidence-Based Treatments for PTSD
(DoD/VHA Guidelines)

- Medication
  - Sertraline (Zoloft) - FDA indication in 1999
  - Paroxetine (Paxil) - FDA indication in 2001

- Cognitive Behavioral Treatments
  - Exposure Therapy (PE, Dream Rehearsal)
  - Cognitive Therapy (CPT, CT, CR)
  - Stress Inoculation Training (SIT)
  - EMDR
  - Combination of CR and Exposure Therapy

PTSD Treatments and Strategies
We Will Discuss

1. Medication
2. Cognitive Processing Therapy (CPT)
3. Prolonged Exposure Therapy (PE)
4. Imagery Rehearsal Therapy (IRT)
5. Eye Movement Desensitization Reprocessing Therapy (EMDR)
6. Stress Inoculation Therapy (SIT)
   - Psychoeducation
   - Relaxation Training (breathing retraining & guided imagery)
   - Anger Management
1. Medication

Paroxetine Flexible-Dose Study

Adjusted Mean Change in CAPS-2 Total Score

LOCF dataset. *P<.05; **P<.001.
Mean dose at endpoint = 32.5 mg/day.
Paroxetine Treatment of PTSD: Remission Rate


Sertraline: Further Improvement After 12 Weeks

2. Cognitive Processing Therapy (CPT)

Cognitive Processing Therapy Is…

- a short-term evidence-based treatment for PTSD
- a specific protocol that is a form of cognitive behavioral treatment
- predominantly cognitive and may or may not include a written account
- a treatment that can be conducted in groups or individually
**CAPS Severity Pre-and Post-Treatment**
(Treatment Completers)

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resick 2002</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>Chard 2005</td>
<td>80</td>
<td>70</td>
</tr>
<tr>
<td>Munson 2006</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>Resick 2008 CPT</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>Resick 2008 CPT-C</td>
<td>60</td>
<td>50</td>
</tr>
</tbody>
</table>

**Phases of CPT Treatment**

- Pretreatment assessment and pretreatment issues
- Education regarding PTSD, thoughts, and emotions
- Processing the trauma
- Learning to challenge
- Trauma themes
- Facing the future
3. Prolonged Exposure Therapy (PE)

Two main factors serve to prolong and worsen post-trauma problems:

1) Avoidance of trauma-related material including triggers, feelings, activities, thoughts, images, and situations.

2) The presence of inaccurate or unrealistic thoughts and beliefs. “The world is unpredictably dangerous.” “I can't cope.”

Avoidance prevents the client from processing the trauma and modifying cognitions.
Prolonged Exposure Therapy (PE)

- Appr 10 sessions
- 90 minutes each
- Structured
- Homework
- Taping /recording

Breathing Retraining

Education about Common Reactions

In-Vivo Exposure

Imaginal Exposure

Confront, confront, confront what you want to avoid!

CPT and PE Follow-Up
(“Cross-sectional”)

PTSD Severity (CAPS)

Pre Post 3 mo 9 mo 5+ yr

CPT, N= PE, N=

83 55 50 41 63
88 55 51 39 64

All participants who were available at each data point

Resick et al., 2005
4. Image Rehearsal Therapy (IRT)

<table>
<thead>
<tr>
<th>Session 1:</th>
<th>Introduce treatment approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 2:</td>
<td>Identify a recurring nightmare</td>
</tr>
</tbody>
</table>
| Session 3: | Brainstorm possible changes to dream  
Write out new dream script |
| Session 4: | Review success with practice and any changes in nightmare  
Consider any changes necessary to new script |
5. Eye Movement Desensitization Processing (EMDR)

Steps:

1. History and treatment planning
2. Preparation
3. Assessment
4. Reprocessing, Desensitization and Installation
5. Same as Step 4
6. Body Scan
7. Closure
8. Reevaluation
Eye Movement Densensitization Reprocessing (EMDR)

**Step 3: Assessment**
Therapist asks patient to identify:

a. Target or visual image of the trauma memory and related emotions and sensations
b. Negative belief related to the trauma memory
c. Positive belief he/she would like to have about self

**Steps 4 & 5: Reprocessing, Desensitization, and Installation**

a. Therapist has patient recall target image while using a set of rapid bilateral eye movements for brief period
b. Therapist asks patient for reactions and associations.
c. Therapist repeats procedures to facilitate “digestion” of trauma

Eye Movement Densensitization Reprocessing (EMDR)

Imagine the traumatic event
Engage in lateral eye movements
Focus on changes to image
Repeat eye movements
Generate alternative cognitive appraisal
Focus on the alternative appraisal
Repeat eye movements
7. Stress Inoculation Therapy (SIT)
Stress Inoculation Therapy (SIT)

Phase I: Education
Explanation of fear reaction, the role of cognitions, and the effect of relaxation

Phase II: Skill Building
Relaxation training
Thought stopping
Cognitive restructuring
Covert modeling
Role playing

Phase III: Application
Skill building and application phase overlap
Help clients apply new skills to current life situation
Relapse prevention
Discuss future applications

SIT and PE

Percent of Pts with PTSD

- PE
- SIT
- SIT/PE
- WL

Foa et al., 1999
1. Elicit patient’s experience of PTSD symptoms and related problems
2. Validate and normalize the patient’s experiences and symptoms
3. Instill hope that many of the patient’s problems are related to PTSD and should improve with treatment
4. Promote communication and foster the therapeutic alliance needed for successful treatment

Psychoeducation: Common Reactions to Trauma

Fear and anxiety
- Feeling numb or detached
- Feeling angry, guilty, or ashamed
- Grief and depression
- Negative image of self and world
  - The world is dangerous
  - I am incompetent
  - People can not be

Intrusive thoughts about the trauma
Nightmares of the trauma
Sleep disturbance
Feeling jumpy and on guard
Concentration difficulties
Avoiding trauma reminders
<table>
<thead>
<tr>
<th>Summary – Treatment of PTSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various evidence-based treatments for PTSD are available including PE, CPT, EMDR, SIT, and medication.</td>
</tr>
<tr>
<td>While different modalities for treating PTSD also are used, the strongest evidence supports individual treatments, although Group CPT is substantiated by research and there is growing support for CBT Couple’s Therapy (C. Monson).</td>
</tr>
<tr>
<td>What evidence-based treatment approach works best with certain types of client has not been identified in the research. At this point, therapist preference for, confidence in, and comfort level with a treatment approach seem most important.</td>
</tr>
<tr>
<td>When using an evidence-based treatment, adhering to the protocol is extremely important instead of mixing elements from different “packages.”</td>
</tr>
</tbody>
</table>