POST TRAUMATIC STRESS DISORDER AND ITS RELATIONSHIP TO SUICIDE

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What is Post Traumatic Stress Disorder?

DSM-IV-TR Criteria:

Criterion A: Stressor

• The person has been exposed to a traumatic event in which both of the following have been present:
  • The person has experienced, witnessed, or been confronted with an event or events that involve actual or threatened death or serious injury, or a threat to the physical integrity of oneself or others.
  • The person's response involved intense fear, helplessness, or horror. Note: in children, it may be expressed instead by disorganized or agitated behavior.

American Psychiatric Association, 2000
PTSD Criterion B: Intrusions

Criterion B: Intrusive Recollection

The traumatic event is persistently re-experienced in at least one of the following ways:

• Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. Note: in young children, repetitive play may occur in which themes or aspects of the trauma are expressed.
• Recurrent distressing dreams of the event. Note: in children, there may be frightening dreams without recognizable content
• Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur upon awakening or when intoxicated). Note: in children, trauma-specific reenactment may occur.
• Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
• Physiologic reactivity upon exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
PTSD Criterion C: Avoidance

Criterion C: Avoidance/Numbing
Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by at least three of the following:

• Efforts to avoid thoughts, feelings, or conversations associated with the trauma
• Efforts to avoid activities, places, or people that arouse recollections of the trauma
• Inability to recall an important aspect of the trauma
• Markedly diminished interest or participation in significant activities
• Feeling of detachment or estrangement from others
• Restricted range of affect (e.g., unable to have loving feelings)
• Sense of foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)
PTSD Criterion D: Arousal

Criterion D: Hyper-arousal
Persistent symptoms of increasing arousal (not present before the trauma), indicated by at least two of the following:

- Difficulty falling or staying asleep
- Irritability or outbursts of anger
- Difficulty concentrating
- Hyper-vigilance
- Exaggerated startle response
PTSD Criteria E & F: Duration and Impairment

Criterion E: Duration
• Duration of the disturbance (symptoms in B, C, and D) is more than one month.

Criterion F: Functional Significance
• The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Specify if:
• Acute: if duration of symptoms is less than three months
• Chronic: if duration of symptoms is three months or more
Media Coverage

News Articles:

• “Experts: Vets’ PTSD, violence, a growing problem”

• “A mounting suicide rate prompts an Army response”
  (Dec 2009, Time Magazine)

• “Widow sues Tennessee veterans hospital over husband’s suicide”
PTSD and Suicide

- Research has established a strong connection between history of trauma and suicidal behaviors

1) Afifi et al, 2008
2) Brodsky et al, 2001
3) Ryb et al, 2006
4) Sarchiapone et al, 2009
5) Nelson et al, 2002
6) Ystgaard et al, 2004
PTSD & Suicide: General Population

ADULTS

• Lifetime prevalence of PTSD is related to suicidal ideation and attempts, in adults even after controlling for various other diagnoses.¹⁻⁵

ADOLESCENTS

• Lifetime PTSD associated with SI and SA even after controlling for demographics, depression, substance abuse, and trauma histories.⁶

PTSD & Suicide: General Population

COMORBIDITIES

• Life time prevalence of PTSD + MDD have higher rates of suicidal ideation than PTSD or MDD alone and higher rates of suicide attempts than MDD alone.\(^1\)

• Persons with PTSD + Personality Disorder comorbidity were 7 times more likely to have made a suicide attempt in their lifetime than people without either disorder, even after controlling for sociodemographics and other mental disorders.\(^2\)

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1. Cougle et al, 2009
2. Nepon et al, 2010
PTSD & Suicide: Veterans

- Vietnam Vets with PTSD have been found to be at increased risk for suicide deaths than those without PTSD.¹
- OEF/OIF Veterans with current PTSD were 4.2 times as likely to have current suicidal ideation than those without PTSD; those with PTSD plus another disorder were 5.7 times as likely to endorse SI.²
- Veterans with history of PTSD were 2.8 times as likely to have made a suicide attempt.³

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¹ Bullman and Kang, 1994
² Jakupcak et al, 2009
³ Brenner et al, 2011
Review

✔ PTSD is associated with increased suicidal ideation and attempts in the general population in both adults and adolescents even after accounting for demographics, other psychiatric diagnoses, some physical ailments, and personality disorders.

✔ Current PTSD diagnosis is associated with current suicidal ideation in OEF/OIF Veterans

✔ PTSD is associated with deaths by suicide in Vietnam Veterans

✔ PTSD plus a comorbid diagnosis appears to create the largest risk
How is PTSD related to suicide?

What accounts for the relationship between PTSD and suicidal behaviors?
~ High levels of intrusive symptoms\(^1\)
~ Anger and impulsivity\(^2\)
~ Avoidant coping style\(^3\)
~ Sleep disturbance\(^4\)
~ Impaired relationships (e.g. not married, dissatisfaction with social relationships)\(^5\)
~ Guilt\(^6\)

\(^{1)}\) Amir et al, 1999  
\(^{2)}\) Kotler et al, 2001  
\(^{3)}\) Amir et al, 1999  
\(^{4)}\) ??  
\(^{5)}\) Jakupcak et al, 2010  
\(^{6)}\) Hendin & Haas, 1991
What to do?

Increase research on the specific components of PTSD that are associated with suicidal behaviors

Increase research on specific risk and protective factors

AND

Treat the PTSD!
Exposure Therapy for PTSD

- Some efficacy exists for several types of psychological interventions for PTSD.
- Strongest evidence exists for exposure-oriented interventions
  - Number of rigorous studies across settings 1-4
  - Quality Reviews 5-6
  - Quality of data
  - Strong effect sizes

1 Foa, Davidson & Frances, 1999
2 Foa & Rauch, 2004
3 Foa et al., 2005
4 Schnurr et al., 2007
5 Institute of Medicine, 2007
6 Bradley et al., 2005
Exposure Therapy for PTSD has been shown to reduce or eliminate symptoms of PTSD for victims of physical assault.\textsuperscript{10}  

\textsuperscript{10} Foa & Rauch, 2004
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\textsuperscript{10} Foa & Rauch, 2004  
\textsuperscript{11} Foa et al., 2005  
\textsuperscript{12} Paunovic & Ost, 2001
Exposure Therapy for PTSD has been shown to reduce or eliminate symptoms of PTSD for victims of physical assault, rape, torture, motor vehicle accidents, terrorist attacks, mixed traumas - natural and human-made disasters, medical emergencies.

10 Foa & Rauch, 2004
11 Foa et al., 2005
12 Paunovic & Ost, 2001
13 Fecteau, & Nicki, 1999
14 Kazi, Freund, Ironson, 2008
15 Anderson et al., 2006
16 Marks et al, 1998
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References:
10 Foa & Rauch, 2004
11 Foa et al., 2005
12 Paunovic & Ost, 2001
13 Fecteau, & Nicki, 1999
14 Kazi, Freund, Ironson, 2008
15 Anderson et al., 2006
16 Marks et al, 1998
17 Thorpe et al., 2011
18 Yoder et al., 2011
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Exposure Therapy for PTSD has been shown to reduce or eliminate symptoms of PTSD for victims of physical assault, rape, torture, motor vehicle accidents, terrorist attacks, mixed traumas - natural and human-made disasters, medical emergencies, and in geriatric patients, adolescent patients, patients with substance dependency, patients with traumatic brain injury, patients living in rural areas via Skype-like (telehealth) technology.
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Exposure Therapy for PTSD

Dissemination Efforts for Prolonged Exposure (PE) in the VA

- Nationwide dissemination initiatives in PE
- Multi-year rollouts
- Four-day workshops, ongoing consultation and supervision with regional trainers, emphasis on fidelity and high quality training.

Preliminary results of PE with OEF/OIF veterans are promising\(^1\)-\(^3\)

\(^1\) Brady, Tuerk, Grubaugh, in press
\(^2\) Rauch et al., 2009;
\(^3\) Tuerk, Grubaugh, Hamner, Foa, in press.
Methods Overview

- 65 patients, positive for PTSD
- Received Prolonged Exposure therapy
- Multiple assessments with the PTSD Checklist and Beck Depression Inventory over course of treatment
- Post hoc, non-controlled, effectiveness data

Results
Drop Out, Retention, Length of Treatment

- 66% met criteria as treatment completers (at least 6, 90 minute sessions).
- Average # of sessions:
  - Whole sample = 7 (SD=5)
  - Completers = 10 (SD=4)

- Patient characteristics, i.e., age, gender, race/ethnicity, and baseline PTSD and depression severity scores were not statistically significant predictors of treatment completion.
Results: \( t \)-tests

Pretreatment-to-posttreatment change in PCL-M scores averaged 17 points in the ITT samples and 25 points for completers.

Significant reduction of PCL-M scores:

ITT Sample: pre-tx: 63.05 (SD = 8.59)

- post-tx 46.29 (SD = 19.52)
- \( t = 8.02, p < .001, d = 1.19 \)

Completers: pre-tx 61.80 (SD = 8.30)

- post-tx 36.66 (SD = 15.95)
- \( t = 11.60, p < .001, d = 2.07 \)
Results: *t*-tests

Treatment Outcomes by Group

Figure 1. Pre-post outcomes with 95% confidence intervals for the ITT sample, treatment completers, and non-completers.
Time-in-treatment significantly predicted PCL outcomes ($\sigma^2 = 80.31$, $\tau = 110.49$, $\chi^2 = 362.25$, $df = 64$, $p < .001$).

The modeled coefficient indicated that each two-session unit of PE was associated with a 6.98 point drop in PCL symptoms (95% CI 5.4 - 8.4; $t = -8.6$, $df = 198$, $p < .001$).

The time-in-treatment effect accounted for 32% of the within-patient variance.

Figure 2. PTSD Checklist (PCL) and Beck Depression Inventory-II (BDI) outcomes over the course of treatment.
Age, gender, and service disability connection rating were not significant predictors of treatment response or the slope of response over time.

33% of the whole sample and 50% of the treatment completers sample scored 30 or below on the PCL post-treatment, which is well below the clinical range.

Figure 2. PTSD Checklist (PCL) and Beck Depression Inventory-II (BDI) outcomes over the course of treatment.
Participants

- N= 47 combat patients (35 In-person PE, 12 Telehealth PE)
- Average age = 32 years
- 6% female
- Race/ethnicity: 34% Black, 66% White
- 72% OIF/OEF patients; 28% Vietnam patients

- All patients were diagnosed with PTSD via CAPS or SCID
- All patients were given PE; patients living in rural areas or near Community Clinics were given the option to receive PE via telemental health.
Method: PE via Telehealth

Rating-scale measures were administered at baseline and every 2 weeks while in treatment by the treating clinician.

The normal PE protocol was followed with some adjustments for the telehealth component.
Results

No adverse events occurred in either treatment arm. Support and safety staff were never contacted for clinical reasons.

The treatment completion rate for in-person PE was 83% as compared to 75% for the PE-telehealth group.

The average number of sessions to treatment termination for the in-person PE group was 10.1 ($SD=3.77$), versus 10.0 ($SD=6.30$) for the PE-telehealth group.
Results

Pretreatment-to-posttreatment change in PCL-M scores averaged 31 points across both groups.

Significant reduction of PCL-M scores in both groups:

In-Person PE: pre-tx: 60.69 (SD = 9.54)
• post-tx 27.69 (SD = 6.00)
• \( t = 16.87, p < .001, d = 4.25 \)

Telehealth PE: pre-tx 61.00 (SD = 10.58)
• post-tx 34.89 (SD = 7.56)
• \( t = 12.29, p < .001, d = 2.88 \)
Results

Figure 1. PTSD Checklist (PCL) and Beck Depression Inventory (BDI-II) outcomes by prolonged exposure (PE) treatment condition, with 95% confidence intervals for first and last session measurements.
Take Away Message

- PTSD is treatable!
- Proper treatment for PTSD also helps reduce depression
- We hope that with reduced PTSD and reduced depression, we will also see declines in suicide rates, however this has not yet been researched/published.