Symptom Exacerbations in Trauma-Focused Treatment: Cause for Concern or Par for the Course?

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Poll Question #1

- What is your primary role in the VA?
  - Student, trainee, or fellow
  - Clinician
  - Researcher
  - Administrator, manager, or policy-maker
  - Other
Trauma-focused treatments

- Front-line treatment for PTSD
- Under-utilized relative to their efficacy and the prevalence of PTSD
The concern with exacerbations

• Some populations (e.g. CSA, comorbidities) can’t tolerate trauma-focused treatment
• Trauma-focused treatments will make PTSD worse
• Trauma-focused treatments could increase patient distress
• Patients will then drop out or be worse off than when they started
Past Studies

• Imaginal exposure not linked to exacerbations (Foa et al 2002)

• Drop-out rates same across active PTSD treatments (Hembree et al 2003)

• Two studies of pre-to-post treatment worsening
  • Some got worse on the wait list; none got worse in trauma-focused treatment (Jayawickreme et al 2013; Ehlers et al 2014)

• Two studies of within-treatment exacerbations
  • 30% of sample in an active trauma group (Mott et al 2013)
  • 22% of sample had depression spikes (Keller et al 2014)
Study 1

An examination of symptom exacerbations in a clinical trial sample (Larsen et al., 2015)
Study 1 Questions

1. How common are symptom exacerbations in trauma-focused treatments for PTSD?
2. What predicts symptom exacerbations?
3. Do symptom exacerbations predict worse post-treatment outcomes or dropout?

Methods—Participants

- Two RCTs of CBT for PTSD
  - CPT
  - CPT-C
  - PE
- Female survivors of interpersonal violence
- Completed at least 4 therapy sessions
Demographics

- N = 192 (PE = 60; CPT = 98; CPT-C = 34)
- Age $M = 34$ years
- 78% White, 19% African-American
- Marital status
  - 44% single
  - 25% married or cohabiting
  - 30% separated, widowed, or divorced
- Years since assault $M = 11$
Methods - Treatments

- Prolonged Exposure (PE) – 9 sessions
  - Psychoeducation
  - Breathing retraining
  - In vivo exposure
  - Imaginal exposure and emotional processing
- Cognitive Processing Therapy (CPT) – 12 sessions
  - Recognizing and challenging dysfunctional trauma-related beliefs
  - Write trauma narrative
- CPT-C does not include the written narrative
Methods—Measures

- **CAPS**
  - Pre- and post-treatment

- **PTSD Symptom Scale/Posttraumatic Diagnostic Scale**
  - Pre, post, and weekly during treatment (every other session)

- **Defining exacerbations:**
  - Change greater than 6.15 points on PDS/PSS (Foa et al., 2002)
Results - Frequencies

- Frequency overall
  - CPT 28.6%
  - CPT-C 14.7%
  - PE 20%

- Frequency between sessions 2 and 4
  - CPT 13.4%
  - CPT-C 2.9%
  - PE 15.0%

CPT vs. CPT-C $\chi^2(N = 131) = 2.89, p = .089$;
PE vs. CPT-C $\chi^2(N = 94) = 3.32, p = .068$
CPT vs. PE $\chi^2(N = 157) = 0.08, p = .78$
Predictors of exacerbations

- Potential predictors
  - Demographics
  - Trauma-related variables
  - Treatment type
  - Diagnostic variables
  - Avoidance symptom cluster

- None were significant predictors
  - Marginal significance:
    - Childhood Sexual Abuse
    - Alcohol abuse
Post-Treatment Outcomes

- Do exacerbations cause worse post-treatment outcomes? **Yes and no...**
- **Yes**: Those who experienced an exacerbation were more likely to retain a PTSD diagnosis, and were likely to continue to have higher PTSD symptom scores over the course of treatment.
- **No**: Those who experienced an exacerbation showed (large) significant pre-to-post treatment improvement, ending with scores within non-PTSD population norms.
Dropout

- Unrelated to symptom exacerbations
- Unrelated to PDS/PSS early sessions
Large exacerbations (2x)

- N=14 (7% of sample)
- Slightly more likely to drop out
- Comparable pre-to-post changes
Conclusions from Study I

- A minority of patients experience symptom exacerbations
- Exacerbations *do not preclude* positive outcomes
- Clients can tolerate such treatments
- Symptom exacerbations may be a normal part of treatment, and are less common than sudden gains
Poll Question #2

- To what extent do these findings mirror your own clinical experience?
  - I’ve noticed symptom exacerbations like this AND worry about them
  - I’ve noticed symptom exacerbations like this and DON’T worry about them
  - I haven’t noticed exacerbations like this
  - I avoid doing trauma-focused therapy because of worries about these exacerbations
  - Other/not applicable
Study 2

CPT provided by newly-trained clinicians
Study Team

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Design

- Hybrid-III design (Curran et al., 2012)
- RCT of 3 different post-workshop consultation strategies
  - Fidelity assessment only (No consultation)
    - Written feedback on a randomly selected session 6 months after workshop
    - Potential to become a CPT Provider
  - Standard Consultation
    - Weekly group consultation with a CPT expert
    - Discussion of cases
    - No use of work samples
  - Technology-enhanced Consultation
    - Weekly group consultation with a CPT expert
    - Review of segments of audio recorded sessions
    - Review of worksheets, stuck point logs, etc
Therapists and Settings

- N=134

- 23 Clinics
  - 10 Operational Stress Injury Clinics
  - 3 Canadian Forces Clinics
  - 3 Hospitals (multiple sub-clinics at three of the clinics)
  - 7 Community-based clinics

- 37 Private Practitioners (provide services to Veterans)

- 78% Urban Clinics, 16% Suburban, 5% Rural

- Mean Caseload: 28 (SD=23)

- % Caseload with PTSD
  - <25%
  - 26-50%
  - 51-75%
  - 76-100%
Therapists

Mean Age = 47 (SD=11)

72% Female, 27% Male

Degree

PhD/PsyD: 41%
Master’s: 35%
Bachelor’s level: 10%
MD: 4%

52% had prior CBT supervision

<5: 11
6-10: 33
10-20: 21
>20: 33
Client participants

- N=188
- Age M=35, SD=11
- Education M=12, SD=2
- 53% Female
- Race/Ethnicity
  - 88% White
  - 4% Native Canadian
  - 3% Asian
  - 2% Black
  - 3% Other
  - <1% Hispanic/Latino

Marital Status
- 36% Single/Divorced/Widowed
- 58% Married/In a Committed Relationship

Veteran Status
- 70% of males and 17% of females were in military or were veterans
## Client Diagnoses

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td>98</td>
</tr>
<tr>
<td>Major Depressive Disorder</td>
<td>56</td>
</tr>
<tr>
<td>Substance Abuse or Dependence</td>
<td>12</td>
</tr>
<tr>
<td>Anxiety Disorder</td>
<td>17</td>
</tr>
<tr>
<td>Bipolar Disorder</td>
<td>5</td>
</tr>
<tr>
<td>Eating Disorder</td>
<td>4</td>
</tr>
<tr>
<td>ADHD</td>
<td>5</td>
</tr>
<tr>
<td>Borderline PD</td>
<td>14</td>
</tr>
<tr>
<td>Other PD</td>
<td>10</td>
</tr>
</tbody>
</table>

*No differences in client demographic or diagnostic characteristics between conditions*
Study Procedures

- Therapists completed CPT workshop

- Therapists in all condition knew fidelity would be rated

- Those in consultation received weekly consultation for 6 months

- Therapists delivered CPT

- Enrolled clients completed PCL-IV at every session.
Symptom Exacerbation

- Defined as an increase greater than 5.71 on the PCL between adjacent sessions.
- 65.6% reported at least one instance of symptom exacerbations during treatment.
- Of those who reported them, the average was 1 session with symptom exacerbations (range = 0 – 4).
- Symptom exacerbations occurred on average in 14% of sessions in which PCLs were available (or median = 11% of available sessions).
Exacerbations by Session

Males

Females

S1  S2  S3  S4  S5  S6  S7  S8  S9  S10  S11  S12
Why the difference?

- Different measure, 5.71 points for exacerbation
- Differences in clinical training
- Differences in discipline and training background
- Very limited exclusion criteria
- Differences in supervision/consultation
## Fidelity

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adherence</td>
<td>2.26</td>
<td>.49</td>
<td>0-3</td>
</tr>
<tr>
<td>Competence</td>
<td>2.82</td>
<td>.80</td>
<td>0-6</td>
</tr>
</tbody>
</table>
## Predictors of Exacerbation

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Model 1 OR (95% CI)</th>
<th>Model 2 OR (95% CI)</th>
<th>Model 3 OR (95% CI)</th>
<th>Model 4 OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>1.03 (.99, 1.06)</td>
<td>1.03 (.99, 1.06)</td>
<td>1.03 (.99, 1.06)</td>
<td>1.03 (.99, 1.06)</td>
</tr>
<tr>
<td>Gender</td>
<td>1.39 (.61, 3.19)</td>
<td>1.66 (.66, 4.18)</td>
<td>1.64 (.65, 4.17)</td>
<td>1.49 (.56, 3.93)</td>
</tr>
<tr>
<td>Education</td>
<td>1.02 (.88, 1.19)</td>
<td>1.03 (.88, 1.21)</td>
<td>1.03 (.88, 1.21)</td>
<td>1.03 (.88, 1.21)</td>
</tr>
<tr>
<td>Marital Status</td>
<td>1.20 (.59, 2.46)</td>
<td>.94 (.41, 2.17)</td>
<td>.94 (.40, 2.17)</td>
<td>.92 (.39, 2.18)</td>
</tr>
<tr>
<td>Military Status</td>
<td>1.14 (.49, 2.65)</td>
<td>1.38 (.54, 3.50)</td>
<td>1.41 (.55, 3.61)</td>
<td>1.38 (.54, 3.54)</td>
</tr>
<tr>
<td>Depression</td>
<td>n/a</td>
<td>1.39 (.62, 3.08)</td>
<td>1.38 (.62, 3.09)</td>
<td>1.37 (.61, 3.09)</td>
</tr>
<tr>
<td>Anx Disorder</td>
<td>n/a</td>
<td>.62 (.21, 1.79)</td>
<td>.62 (.21, 1.82)</td>
<td>.66 (.21, 2.05)</td>
</tr>
<tr>
<td>SU Disorder</td>
<td>n/a</td>
<td>.27* (.08, .90)</td>
<td>.26* (.07, .89)</td>
<td>.23* (.06, .83)</td>
</tr>
<tr>
<td>Personality DO</td>
<td>n/a</td>
<td>.61 (.23, 1.60)</td>
<td>.60 (.22, 1.61)</td>
<td>.59 (.21, 1.60)</td>
</tr>
<tr>
<td>Session 1 PCL</td>
<td>n/a</td>
<td>n/a</td>
<td>1.01 (.97, 1.04)</td>
<td>1.01 (.97, 1.05)</td>
</tr>
<tr>
<td>Consultation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None vs Tech</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>.49 (.19, 1.29)</td>
</tr>
<tr>
<td>None vs Standard</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>.45 (.02, 13.90)</td>
</tr>
</tbody>
</table>
Overall PTSD Change
## Effect Sizes

<table>
<thead>
<tr>
<th>CPT in RCTs</th>
<th>No Consultation</th>
<th>Tech-enhanced</th>
<th>Standard</th>
<th>Full Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.69¹ (95% CI=1.27-2.11)</td>
<td>.95</td>
<td>1.09</td>
<td>1.78</td>
<td>1.29</td>
</tr>
</tbody>
</table>

¹Watts et al., 2013
Exacerbations predicting dropout?

- Participants with symptom exacerbations were significantly LESS likely to drop out of treatment prior to completing at least 8 sessions

- Looking at sessions 1 – 7 individually, the likelihood of treatment drop out was not related to the presence of symptom exacerbations; all $\chi^2 (1)< 1.7$, all ps > .05.

- People who had an exacerbation in any given session were no more likely to drop out than they were to finish treatment
# Predictors of Symptom Change

<table>
<thead>
<tr>
<th>Predictors</th>
<th>B (95% CI)</th>
<th>Predictors</th>
<th>B (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.59 (-.22, .46)</td>
<td>Age</td>
<td>.67 (-.20, .40)</td>
</tr>
<tr>
<td>Gender</td>
<td>-.97 (-9.99, 3.40)</td>
<td>Gender</td>
<td>-.95 (-9.78, 13.41)</td>
</tr>
<tr>
<td>Education</td>
<td>-.43 (-1.41, .90)</td>
<td>Education</td>
<td>-.46 (-1.47, .92)</td>
</tr>
<tr>
<td>Marital Status</td>
<td>-.88 (-8.08, 3.10)</td>
<td>Marital Status</td>
<td>-1.03 (-8.46, 2.66)</td>
</tr>
<tr>
<td>Military Status</td>
<td>.31 (-5.36, 7.37)</td>
<td>Military Status</td>
<td>.36 (-5.37, 7.79)</td>
</tr>
<tr>
<td>Depression</td>
<td>.66 (-3.91, 7.80)</td>
<td>Depression</td>
<td>.75 (-3.81, 8.41)</td>
</tr>
<tr>
<td>Anx Disorder</td>
<td>-1.51 (-13.93, 1.89)</td>
<td>Anx Disorder</td>
<td>-1.59 (-14.20, 1.57)</td>
</tr>
<tr>
<td>SU Disorder</td>
<td>-.09 (-9.45, 8.66)</td>
<td>SU Disorder</td>
<td>-.17 (-9.61, 8.10)</td>
</tr>
<tr>
<td>Personality DO</td>
<td>-.57 (-7.74, 4.28)</td>
<td>Personality DO</td>
<td>-.65 (-7.96, 4.02)</td>
</tr>
<tr>
<td>Session 1 PCL</td>
<td>-.81 (-.39, .17)</td>
<td>Session 1 PCL</td>
<td>-.89 (-.40, .15)</td>
</tr>
<tr>
<td>Consultation Condition</td>
<td></td>
<td>Consultation Condition</td>
<td></td>
</tr>
<tr>
<td>None vs. Tech</td>
<td>.39 (-5.44, 8.08)</td>
<td>None vs. Tech</td>
<td>.28 (-5.76, 7.69)</td>
</tr>
<tr>
<td>None vs. Standard</td>
<td>-1.04 (-10.33, 3.19)</td>
<td>None vs. Standard</td>
<td>-1.15 (-10.71, 2.85)</td>
</tr>
<tr>
<td>Total Exacerbations</td>
<td>.81 (-1.68, 3.99)</td>
<td>Early Exacerbations</td>
<td>-.24 (-4.41, 3.46)</td>
</tr>
</tbody>
</table>
Exacerbations and Treatment Response

- ITT sample: Mean PCL reduction of 15.28 points ($d=1.29$)
- Mean post-treatment PCL-IV
  - No Exacerbations=39.0 (18.4)
  - Exacerbations=45.22 (15.69)
- Number and presence of exacerbations did not predict treatment response (PCL<50 at post-treatment), $\chi^2 (4)< 3.97$, p=.41
- 66% of people who experienced an exacerbation had a PCL below 50 at session 12.
Worsening of Symptoms?

- 5.4% reported worse PCLs scores at session 12 compared to session 1 (worse > 5.71 symptom increase).
- Number of symptom exacerbations in early sessions (sessions 1 – 5) did not predict overall worsening; OR = 1.22 (.40, 3.68)
- Effects on Symptom Trajectories
  - Using piece-wise latent growth curve model (sessions 1 – 5 vs 5 – 12)
  - Number of exacerbations in early sessions did not predict linear slope for PCL scores during session 6 – 12; standardized effect = - .27, p = .19
  - Standardized effect estimates for symptom change during sessions 1-5 = -.47 and during sessions 5 – 12 = -.67 (both sig)
- Consultation Condition did not predict significant differences for symptom change nor for number of exacerbations for sessions 1 – 5.
Conclusions

- Exacerbations may be common in practice
- They don’t mean people won’t improve
- We still know little about what predicts them
- May be related to decreased avoidance or to non-treatment related factors
Clinical Considerations

- Important to differentiate between therapies that produce symptom increases in the short term and those that are truly harmful.

- Potential drawbacks of not engaging in trauma-focused treatments.

- We can normalize symptom increases but reassure that clients that people *still get better*. 

Questions? Comments?

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Reference: