Introduction

- Post-traumatic stress disorder (PTSD) represents a significant cause of workplace morbidity among US veterans
- Estimated prevalence of PTSD is 10-30% among US veterans
- Prolonged Exposure Therapy (PE) is a trauma-focused, cognitive-behavioral therapy
- There is variable response to Prolonged Exposure Therapy when used for PTSD
- Outcome Expectancy, or the degree to which patients believe therapy will result in improvement, is a factor shown to predict treatment response in a number of mental health populations

Specific Aims

- Determine whether PTSD treatment expectations (PTE) predict improvement in veterans with PTSD undergoing PE therapy

Methods

- Study Design
  - Prospective cohort study
- Participants:
  - All participants were diagnosed with PTSD
  - All were being treated for PTSD on an outpatient basis at the VA Hospital, Philadelphia
- Measures
  - PTSD Symptom Severity Measure: PCL-5
  - 20 items, self-report of symptoms (0-80 points)
  - Depression Screening Measure: PHQ-9
  - 9 items, self-report of symptoms (0-27 points)
  - PTSD Treatment Expectancy Measure: PTE
  - Three item self-report scale (0-10 points each)
  1. I believe it is possible to heal from trauma
  2. I believe it is possible to recover from PTSD
  3. I feel confident that I will be successful in my PTSD treatment
- Procedures
  - PTE, PCL-5, and PHQ-9 measured before session one
  - PCL-5 and PHQ-9 measured after completion of PE therapy
- Data Analysis
  - To compare completers & non-completers, χ² tests for categorical variables and 2-sample t-tests for continuous variables were used
  - ANOVA in repeated measures was used to assess PCL-5 and PHQ-9 differences pre/post PE intervention by PTE score

Results

- 57 veterans consented of which 35 (61%) completed PE therapy
- Completers & non-completers did not significantly differ with regard to gender, race, trauma type, PHQ, PCL-5 or PTE scores
- Completers were significantly older (8 years) and more likely to have seen combat in Vietnam/Korea (40% vs 18%)
- Median number of PE sessions was 10 (range 7-20)

Demographics of Completers & Non-Completers

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Completers</th>
<th>Non-Completers</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race/Ethnicity</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Black/African American</td>
<td>20</td>
<td>57%</td>
<td>13</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>14</td>
<td>40%</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>3%</td>
<td>4</td>
</tr>
<tr>
<td>Saw Combat</td>
<td>20</td>
<td>57%</td>
<td>13</td>
</tr>
<tr>
<td>Trauma Type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combat: Vietnam/Korea</td>
<td>14</td>
<td>40%</td>
<td>4</td>
</tr>
<tr>
<td>Combat: OEF/OIF/PG1</td>
<td>5</td>
<td>17%</td>
<td>9</td>
</tr>
<tr>
<td>Combat: MST/Seasual</td>
<td>5</td>
<td>14%</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>29%</td>
<td>4</td>
</tr>
<tr>
<td>Gender: Male</td>
<td>28</td>
<td>80%</td>
<td>17</td>
</tr>
<tr>
<td>Age in years</td>
<td>58.2</td>
<td>(14.0)0.1</td>
<td>50.3</td>
</tr>
<tr>
<td>PTE score (range 0-30)</td>
<td>15.7</td>
<td>(6.5)</td>
<td>15.7</td>
</tr>
<tr>
<td>PCL-5 score</td>
<td>56.0</td>
<td>(13.0)</td>
<td>59.5</td>
</tr>
<tr>
<td>PHQ-9</td>
<td>16.7</td>
<td>(5.0)</td>
<td>17.0</td>
</tr>
</tbody>
</table>

1 OEF=Operation Enduring Freedom/OIF=Operation Iraqi Freedom/PG=Persian Gulf
2 MST=Military sexual trauma
Mean (standard deviation)

Results (Continued)

- All veterans improved post-treatment
  - PCL-5 score decreased from 57.8 to 35.3, p<.0001
  - Difference = 21.5 (95% CI:15.8-27.11)
- Similarly, PHQ score decreased from 17.3 to 11.6 p<.0001
  - Difference = 5.7 (95% CI: 3.7-7.7)

Association between Individual PTE Question and PCL-5

- No differences in mean PCL-5 difference Pre/Post found by individual PTE question (p>0.2 for all)
- For PTE 2 and PTE 3 some indication that higher PTE scores may translate to larger improvements

Association between PTE Total Score and PCL-5

- Those with higher PTE scores had larger improvements
- After Prolonged Exposure Therapy, the largest PTSD symptom improvements (PCL-5) was seen in the PTE: 21-30 group
  - Group Pre Post Diff (95% CI) p-value
    - PTE: 0-12 61.7 42.7 19.0 (8.9-29.1) <.0006
    - PTE: 13-20 52.0 37.6 14.4 (7.4-21.3) <.0002
    - PTE: 21-30 59.7 28.7 31.0 (19.5-42.4) <.0001

Limitations

- Small sample size
- High percentage of non-completers (39%) despite no difference in PTE score, or either pre PCL-5 or PHQ-9 score
- Only veterans in sample may limit generalizability
- Only self-report measures used

Significance of the Study

- A PTE measure may provide a concise, low-burden treatment expectancy assessment option for clinicians and patients
- Identifying veterans who would most benefit from therapy may allow providers to better choose a therapeutic approach and provide more optimal treatment
- Future studies should empirically test outcome expectancy interventions, such as whether patients' attitudes and concerns about treatment represent appropriate pre-treatment education targets

Conclusions

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