Cognitive Behavior Therapy for Suicide Prevention (CBT-SP):
A New Treatment for Suicidal Adolescents

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Suicidality in Adolescents

- Suicide is 3rd leading cause of death (15-19 yrs)
- Suicide ideation/behavior prevalent among high school students
  - 8.5% report suicide attempt during past year
  - 16.9% report serious consideration of suicide attempt
- Suicidal ideation, suicidal behavior, and suicide are distinct yet overlapping.
  - Suicidal ideation predictor of suicide attempts
  - Suicide attempts associated with repeat suicide attempts and death by suicide.

Interventions for Suicidal Adolescents

U.S. National Priority

- Surgeon General’s Call to Action to Prevent Suicide (1999)
- National Strategy for Suicide Prevention (2001)

Institute of Medicine

Risk factors for suicide

1. Depression and other mental disorders, or a substance-abuse disorder (often in combination with other mental disorders). More than 90 percent of people who die by suicide have these risk factors.2
2. Prior suicide attempt
3. Family history of mental disorder or substance abuse
4. Family history of suicide
5. Family violence, including physical or sexual abuse
6. Firearms in the home (US)
7. Incarceration
8. Exposure to the suicidal behavior of others, such as family members, peers, or celebrities
Rationale for Developing and Testing a New Treatment

- Few psychosocial trials of existing therapies that show efficacy data targeting suicidal behavior in teens with decreased attempts as outcome
- No empirically supported, accessible treatment for suicidal teens that specifically targets suicidal behavior

Interventions for Suicidal Adolescents: Limited Knowledge

- Despite increasing public awareness and improved knowledge of risk factors, little known about interventions
- Few randomized controlled intervention trials
- Evaluated interventions have shown limited effectiveness; Most studies underpowered
  [MST, DBT, CBT, Brief Home-Based Family Treatment, Group Therapy]

Challenges: Adolescent Suicide Attempters

- Adolescent attempters have multiple problems, but no data exist on what are salient targets for intervention
- Difficult to demonstrate prevention of attempts
- Clinicians and investigators reluctant to enter this population into research, but progress impossible without clinical trials.

Intervention Research with Suicidal Youth: Challenges

- Liability/risk management concerns
- Burdensome (albeit necessary) regulatory requirements (AE reports)
- Heterogeneous samples (different sets of co-occurring psychiatric disorders)
- Adolescent attempters have multiple problems, but no data exist on what are salient targets for intervention
- High probability continued suicidal ideation or behavior (possible removal from trial)
- Difficult to demonstrate prevention of attempts
- Clinicians and investigators reluctant to enter this population into research, but progress impossible without clinical trials.
Treatment Approaches in Adolescents

- Brief Home-based Family Therapy (Harrington, 1998)
- Developmental Group Therapy (Wood, 2001; Hazell, 2008; Goodman, 2011)
- Multisystemic Family Therapy (Huey)
- Family-Based Attachment Therapy (Diamond)
- Youth Peer Nominated Support Team (King, 2007, 2009).
- Problem-solving therapy (Donaldson)
- ED Family session and psychoed to tx engagement (Rotheram-Borus, 2000)
- Token for inpatient admission (Cotgrove, 1995)
- DBT-A (Mehlum et al, in progress)

Findings from Previous Studies

- Developmental Group Tx reduced repeated self-harm (includes both attempts and NSSI) in pilot study, but not in the two larger replications; no impact on overdoses or any secondary outcomes
- Home-based treatment only reduced suicidal ideation in non-depressed subsample.
- Attachment-based Family Therapy reduced ideation and depression more than TAU
- None of other studies showed an effect on suicide attempts that was significant

Impact of Treatment of Depression on Suicidality

- Pittsburgh Psychotherapy Study (Brent, 1997, Barbe, 1998)
- TORDIA (Brent, 2008, 2009; Asarnow, submitted)
- ADAPT (Wilkinson et al., in press)
- Dijkstra meta-analysis

Depression Trials in Adolescents

- Treatment trials for depressed adolescents typically exclude:
  - Actively suicidal teens
  - Often exclude those who are not acutely suicidal but have a history of suicidal behavior
  - Analyzing data of “new occurrences” of suicidal behavior in the context of these trials is problematic
Depression Treatment Studies: Suicide-Related Outcomes

- No significant effect on suicide attempts
- Combination treatment in TADS results in faster response on suicidal ideation, and in some analysis, fewer suicidal events
- No difference between combined treatment and medication alone on suicidal events in TORDIA or ADAPT, or in the meta-analysis.
- Predictors of events and attempts include: high ideation, family conflict, drug and alcohol use, NSSI
- In TADS and TORDIA, a slower depression response was associated with an increased risk of events
- Close relationship between improvement in depression and in suicidal ideation
- BUT, no relationship between improvement on mood and on suicide attempt

Cognitive Behavior Therapy for Suicide Prevention (CBT-SP): Rationale and Target Population

- Need for treatment specifically related to suicidal behavior
- Multisite study—Five diverse sites: Columbia/NYU; Duke; Johns Hopkins; Pittsburgh; UT Southwestern Dallas
- Target population:
  - Prior suicidal behavior
  - Depression diagnosis—Diagnosis most frequently associated with suicidal behavior in teens, although not all suicidality occurs in the context of depression

CBT-SP Trial: First Steps

- Open trial goals:
  - To establish the feasibility and acceptability of the intervention
  - To identify factors that predict or mediate the recurrence of suicidal behavior
  - To refine this intervention for use in a larger randomized trial
  - To determine moderators of suicide-related outcomes

Treatment Developers of CBT-SP

- David Brent
- Greg Brown
- John Curry
- Betsy Kennard
- Kim Poling
- Barbara Stanley
- Karen Wells
- Other psychotherapists on the CBT team
CBT-SP Model: Four Approaches

• Cognitive Behavioral: Functional chain analysis of recent suicidal behavior; cognitive techniques and behavioral skills
• Risk Reduction: Factors associated with suicidal behavior
• Relapse Prevention: Future stressors
• Case Conceptualization:
  – 1. Assessment of adolescent’s skill deficits and dysfunctional thinking suicidal behavior
  – 2. Evaluation of the adolescents strengths and natural approach to problems (e.g. cognitive vs. behavioral)
  – Based on 1 and 2 --- selection of skill modules

Derivation of CBT-SP

• Cognitive interventions --- based on CT (Beck and colleagues)
• Behavioral interventions --- based on DBT (Linehan and colleagues)
• Family therapy with behavioral focus (Wells and Curry)
• Psychoeducation about depression and suicide

Key Characteristics

• The treatment is narrow (but important) in focus and narrow in goals—prevention of future suicidal behavior
• The adolescents have multiple emotional problems, difficult family situations and frequent school difficulties and may need other forms of treatment including medication and other therapy, e.g. exposure, case management, substance abuse treatment

Key Characteristics (cont’d)

• Assumption: In a brief treatment, it’s impossible to address all the problems; it’s not even effective to try: Risk of getting nothing done if scope of treatment is overly broad
• The target suicide attempt is centerpiece of the treatment
• Other problems are addressed primarily in the way that they relate to the suicidality
Key Characteristics (cont’d)

- Case conceptualization
  - Identifies skills deficits and dysfunctional thinking that led to the suicidal behavior

- Adolescent’s strengths and natural approach to problem solving — cognitive vs. behavioral — and bolsters those strengths first

Treatment Approach

- Texas Medication Algorithm for treatment of depression
- CBT-SP:
  - Based on adult CBT program for suicide attempters developed by Beck, Brown
  - Modifications based on manuals for TADS, TORDIA, and DBT
  - Family intervention manual by Wells & Curry

Medication Management

- Level 0: Assessment; clinical management
- Level 1: SSRI
- Level 2: Alternate SSRI
- Level 3: Different class
- Level 4: Combination treatment
  - Lithium augment allowed at all medication levels with partial response

Structure of Treatment

- Individual sessions and family sessions (at least one parent and the teen)
- Frequency of sessions: Weekly then biweekly
- Number of sessions:
  - Individual: 12 sessions weekly, possibility of biweekly booster sessions up to week 22
  - Family: up to 6 sessions in first phase; up to 6 in booster phase
  - Maximum of 22 sessions
Primary Techniques

1. Safety plan: emergency plan

2. Chain Analysis: Awareness of circumstances that resulted in attempt --- "Behavior is understandable. Things don't just happen."

3. Development of skills to cope with similar circumstances in the future that lead to suicide attempt:
   a. Immediate precipitants
   b. Longer range vulnerability factors

4. Relapse prevention: revisiting the suicidal event with new skills in place

Safety Planning Steps: Intervention to Increase Coping with Suicidal Feelings

1. Identify personal warning signs
2. Employing internal coping strategies without needing to contact another person
3. Distracting (Socializing) using family members or others and healthy social settings to take mind off suicidal urges to help regulate urges
4. Contacting family members or friends who may help to resolve a crisis
5. Contacting mental health professionals or agencies
6. Reducing the potential for use of lethal means (firearms)

Skill Modules

- Cognitive Restructuring
- Emotion Regulation and Distress Tolerance
- Depression and Hope
- Interpersonal Functioning and Social Support
- Family Skill Modules that parallel teen modules
Skill Development Modules

Emotion regulation-related Modules:
- Mood monitoring to decrease depression
- Behavioral Activation
- Emotion regulation and distress tolerance
- Increasing hopefulness: hope kit
- Anxiety reduction techniques, e.g. relaxation

Interpersonal improvement Modules:
- Improved communication and compromise
- Increased social support

Cognitive Interventions:
- Cognitive restructuring: identify cognitive distortions, automatic thoughts
- Problem solving: pros and cons, alternative solutions

Study Participants

- 5 sites recruited and consented 124 depressed adolescent suicide attempters and got baseline assessments
  - 126 participants originally consented
  - 2 then withdrew consent
  - 5 withdrew before treatment started
  - 119 initiated treatment
- Mostly female, age 16, Caucasian
- Mostly MDD
- Average of 2.3 attempts

Inclusion Criteria

- Age 12-18 years
- Estimated IQ>70
- Lived with primary caretaker who is able to sign consent for at least 6 months before study entry
- Informed consent to participate & agreement to follow protocol

Inclusion Criteria (cont’d.)

- DSM-IV criteria must be met for one of the following current diagnoses:
  - Major Depressive Disorder
  - Dysthymic Disorder
  - Depression NOS (Minor Depressive Disorder)
- Potential subject must have had an actual or an interrupted suicide attempt within 45 days prior to study entry.
- Children’s Depression Rating Scale – Revised Score ≥36
Outcome Measure: Suicidal Event

- Time to suicidal event during trial
- Definition of suicidal event:
  - Suicide Attempt
  - Suicide completion
  - Interrupted Suicide Attempt
  - Hospitalization as a result of significant suicidal ideation, operationalized as active ideation with intent to die
  - Emergency evaluation as a result of significant suicidal ideation, operationalized as active ideation with intent

Assessments

- Assessments weekly for suicidality, with major assessments at weeks 6, 12, 18 and 24
  - Suicidal behavior: Columbia Suicide History Form, Beck Suicide Intent, Scale for Suicidal Ideation, C-SSRS
  - Diagnosis: K-SADS, Present & Lifetime Version
  - Depression: Children’s Depression Rating Scale-Revised, Beck Depression Inventory
  - Hopelessness: Beck Hopelessness Scale.
  - Anxiety: Multidimensional Anxiety Scale for Children (MASC)
  - Aggression: Aggression Questionnaire
  - Emotional Liability & Impulsivity: Emotionality, Activity, Sociability, and Impulsivity Survey
  - Physical Abuse History: Childhood Experiences Questionnaire
  - Family Adaptability, cohesion: FACES II

Patient Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
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<tbody>
<tr>
<td>Female</td>
<td>75.5%</td>
</tr>
<tr>
<td>Age</td>
<td>15.8 ± 1.6</td>
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<tr>
<td>Years in school (grade)</td>
<td>9.8 ± 1.6</td>
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<table>
<thead>
<tr>
<th>Education Level</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>&lt;High School diploma</td>
<td>4.8%</td>
</tr>
<tr>
<td>High School graduate</td>
<td>12.5%</td>
</tr>
<tr>
<td>Some college</td>
<td>27.9%</td>
</tr>
<tr>
<td>College graduate</td>
<td>29.8%</td>
</tr>
<tr>
<td>Advanced degree</td>
<td>25.0%</td>
</tr>
</tbody>
</table>

# of Suicide Attempts| 2.3 ± 2.3 |
Baseline CDRS| 51.2 ± 12.5 |
Baseline BDI| 23.3 ± 12.5 |

Race & Ethnicity

<table>
<thead>
<tr>
<th>Race / Ethnicity</th>
<th>N*</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>108</td>
<td>87%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>19</td>
<td>15%</td>
</tr>
<tr>
<td>Asian</td>
<td>5</td>
<td>4%</td>
</tr>
<tr>
<td>Hawaiian or Pacific Islander</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>22</td>
<td>18%</td>
</tr>
<tr>
<td>Non Hispanic/Latino</td>
<td>104</td>
<td>82%</td>
</tr>
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</table>

* N>124 multiple responses may have been applicable
Baseline Depressive Diagnosis

- **Major Depressive Disorder (n=102)**
- **Double Depression (DD+MDD) (n = 17)**
- **Depressive Disorder NOS (n = 4)**
- **Dysthmic Disorder (n = 1)**

N = 124

Baseline Functioning

- **Clinical Global Impression - Severity**
  - Mean Score = 4.4 (1.1)
  - Between Moderately and Markedly Ill.
- **Children’s-GLOBAL Assessment Scale**
  - Mean Score = 48.3 (11.0)
  - Moderate degree of interference in functioning in most social areas or severe impairment

Mean Duration of Current Depressive Episode

- **MDD**
- **DD-NOS**
- **Double Depression**
- **Dysthymia (n=1)**

Borderline Personality Disorder Score

<table>
<thead>
<tr>
<th>Symptom</th>
<th>% Males that met criteria</th>
<th>% Females that met criteria</th>
<th>% Total</th>
<th>N=121</th>
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</thead>
<tbody>
<tr>
<td>Frantic abandonment</td>
<td>7.7</td>
<td>9.5</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Unstable relationships</td>
<td>3.8</td>
<td>20.0</td>
<td>16.5</td>
<td></td>
</tr>
<tr>
<td>Identity disturbance</td>
<td>3.8</td>
<td>8.4</td>
<td>7.4</td>
<td></td>
</tr>
<tr>
<td>Impulsivity</td>
<td>11.5</td>
<td>17.9</td>
<td>16.5</td>
<td></td>
</tr>
<tr>
<td>Recurrent suicidal behavior</td>
<td>38.5</td>
<td>43.2</td>
<td>42.1</td>
<td></td>
</tr>
<tr>
<td>Affective instability</td>
<td>15.4</td>
<td>21.1</td>
<td>19.8</td>
<td></td>
</tr>
<tr>
<td>Emptiness</td>
<td>26.9</td>
<td>26.3</td>
<td>26.4</td>
<td></td>
</tr>
<tr>
<td>Anger problems</td>
<td>23.0</td>
<td>25.2</td>
<td>24.8</td>
<td></td>
</tr>
<tr>
<td>Paranoia/Dissociation (w/ stress)</td>
<td>7.7</td>
<td>12.6</td>
<td>11.6</td>
<td></td>
</tr>
</tbody>
</table>
Feasibility, Acceptability and Retention in CBT-SP

Retention

- 72.4% retained for full dose of treatment
- Total CBT-SP sessions (M=12.8, SD=5.2)
- Family sessions (M=5.7, SD=3.9)

Acceptability

- N=42
- 86% would recommend treatment to a friend
- 100% reported that was helpful
- Assessment of suicidality: 30% no impact, 19% positive impact, 30.9% mildly negative, and 11.9% very aversive

Modules Used for Teens

<table>
<thead>
<tr>
<th>CBT-SP Modules</th>
<th>Frequency Mean ± SD</th>
<th>% of Patients Receiving Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Plan</td>
<td>8.7 ± 4.8</td>
<td>98.1</td>
</tr>
<tr>
<td>Assess Suicide Risk</td>
<td>8.6 ± 5.1</td>
<td>95.2</td>
</tr>
<tr>
<td>Chain Analysis</td>
<td>2.2 ± 1.6</td>
<td>97.1</td>
</tr>
<tr>
<td>Cognitive Restructuring</td>
<td>4.1 ± 3.3</td>
<td>88</td>
</tr>
<tr>
<td>Mood Monitoring</td>
<td>3.4 ± 3.9</td>
<td>71</td>
</tr>
<tr>
<td>Emotion Regulation</td>
<td>2.9 ± 2.6</td>
<td>75</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>2.2 ± 2.3</td>
<td>68</td>
</tr>
<tr>
<td>Goal Setting</td>
<td>1.6 ± 1.5</td>
<td>74</td>
</tr>
<tr>
<td>Behavioral Activation</td>
<td>1.2 ± 1.5</td>
<td>57</td>
</tr>
<tr>
<td>Mobilizing Social Support</td>
<td>0.7 ± 1.1</td>
<td>38</td>
</tr>
<tr>
<td>Social Skills</td>
<td>0.8 ± 1.5</td>
<td>35</td>
</tr>
</tbody>
</table>
## Modules Used with Families

<table>
<thead>
<tr>
<th>Module</th>
<th>Frequency Mean + SD</th>
<th>% of Patients Receiving Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety Plan</td>
<td>2.2 + 2.2</td>
<td>75</td>
</tr>
<tr>
<td>Communication skills</td>
<td>1.6 + 1.6</td>
<td>70</td>
</tr>
<tr>
<td>Psychoeducation</td>
<td>1.5 + 2.0</td>
<td>69</td>
</tr>
<tr>
<td>Goal Setting</td>
<td>0.9 + 1.2</td>
<td>50</td>
</tr>
<tr>
<td>Family Problem Solving</td>
<td>1.0 + 1.5</td>
<td>49</td>
</tr>
<tr>
<td>Contingency management</td>
<td>0.9 + 1.8</td>
<td>34</td>
</tr>
<tr>
<td>Family pleasant activities</td>
<td>0.4 + 0.7</td>
<td>30</td>
</tr>
<tr>
<td>Relapse Prevention</td>
<td>0.4 + 0.8</td>
<td>29</td>
</tr>
<tr>
<td>Reducing negative emotions</td>
<td>0.4 + 0.9</td>
<td>27</td>
</tr>
<tr>
<td>Mood Monitoring</td>
<td>0.4 + 0.9</td>
<td>26</td>
</tr>
<tr>
<td>Increasing positive reinforcement</td>
<td>0.4 + 0.9</td>
<td>26</td>
</tr>
<tr>
<td>Reducing high expectation</td>
<td>0.3 + 0.8</td>
<td>22</td>
</tr>
<tr>
<td>Attachment &amp; Commitment</td>
<td>0.1 + 0.4</td>
<td>10</td>
</tr>
</tbody>
</table>

## Suicide-Related Outcomes

- 12% of sample had a repeat suicide attempt.
- 19.5% reported a “suicidal event” -- an actual suicide attempt, an interrupted or aborted suicide attempt, or clinically significant suicide ideation requiring emergency evaluation.
- Differences between “attempters” and “eventers”: Mostly similar; Attempters-higer aggression scores and higher % of physical abuse hx

## Suicide Events and Attempts

- Of the 24 suicidal events (N=124):
  - 15 unique patients
- 10/15 suicide attempts occurred during the first 4 weeks, and 83% during the first 12 weeks.
- Hazard of event (0.19) and attempt (0.12)
- Mean time to event was 44.0 days and attempt was 44.8 days; 10/15 attempts within one month
- One suicide completion after treatment, beyond the 6 month window

## Time to Onset of Suicidal Events and Attempts in TASA*

*Brent et al., 2009
Hazards of re-attempt

- CBT-SP sample had hazards of a suicidal event of 0.19, and of an attempt, **0.12**
- 6month study of hospitalized adolescents, hazard of re-attempt **0.17**, ideation 0.27 (Lewisohan et al., 1996)
- Reanalysis of reattempt at 6 months of formerly hospitalized adolescents, **0.20** (Goldston et al, 1999)

Time to Event

- Predictors of Time to Event using Cox Regression were:
  - Higher income (OR **2.2**, 95% CI 1.0-4.7)
  - White Race (OR **2.6**, 95% CI 1.1-5.0)
  - Site (OR **4.6**, 95% CI 1.4-15.4)
  - # of previous attempts (OR **1.5**, 95% CI, 1.1 to 1.0)
  - History of Sexual Abuse (OR **4.4**, 95% CI 1.1-18.0)

Depression and Anxiety Results

- MADRS improved:
  - Baseline: 22.9±10.5
  - Week 12: 13.4±6.9
  - Week 24: 4.7±7.7
- BDI improved:
  - Baseline: 21.9±13.5
  - Week 12: 13.8±9.0
  - Week 24: 5.7±9.3
- MASC improved:
  - Patient-rated Baseline: 46.0±18.1
  - Week 12: 40.0±14.9
  - Week 24: 33.6±16.4
  - Parent-rated Baseline: 49.1±15.4
  - Week 12: 44.9±12.0
  - Week 24: 40.6±12.5
Global Improvement and Adjustment Results

- CGI-S improved:
  - Baseline: 4.3±1.0
  - Week 12: 3.2±0.8
  - Week 24: 2.0±1.0
- CGI-I increased:
  - 58.0% at Week 12; 72.2% at Week 24
- C-GAS scores improved:
  - Baseline: 49.3±10.4
  - Week 12: 61.0±8.0
  - Week 24: 72.6±11.4

Demographic Characteristics and Risk of Re-Attempt

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<thead>
<tr>
<th></th>
<th>Re-Attempt</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Age (M, SD)</td>
<td>15.7 (1.6)</td>
<td>15.9 (1.4)</td>
<td>.56</td>
</tr>
<tr>
<td>Sex (n, % female)</td>
<td>78 (78.8)</td>
<td>18 (72.0)</td>
<td>.97</td>
</tr>
<tr>
<td>Race (% white)</td>
<td>65 (78.3)</td>
<td>18 (21.7)</td>
<td>.74</td>
</tr>
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</table>

Predictors of Suicidal Events

- Higher levels of baseline suicidal ideation (SSI)
- Higher levels of baseline hopelessness
- Higher levels of baseline anxiety
- Greater number of previous attempts
- Lower maximum lethality in previous attempts
- Higher self-rated depression
- Borderline personality traits
- History of sexual abuse predicted early onset of an event; physical abuse risk of attempt
- High family cohesion protective against event
- Note: Two or more prior attempts and lower lethality predicted an early re-attempt

Clinical Characteristics of Patients who Re-Attempt

<table>
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<tr>
<th></th>
<th>Re-Attempt</th>
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<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Scale for suicidal ideation (M, SD)</td>
<td>9.5 (8.8)</td>
<td>5.5 (7.3)</td>
<td>&lt; .03*</td>
</tr>
<tr>
<td># of previous attempts (M, SD)</td>
<td>1.8 (1.6)</td>
<td>3.7 (3.1)</td>
<td>.005*</td>
</tr>
<tr>
<td>Age of first attempt (M, SD)</td>
<td>15.1 (1.9)</td>
<td>13.9 (2.3)</td>
<td>.016*</td>
</tr>
<tr>
<td>Hospitalization with past 6 months</td>
<td>63 (70.8)</td>
<td>15 (75.6)</td>
<td>NS</td>
</tr>
<tr>
<td>Highest lethality</td>
<td>2.3 (1.6)</td>
<td>1.8 (1.2)</td>
<td>.03*</td>
</tr>
<tr>
<td>CGAS</td>
<td>48.9 (11.2)</td>
<td>46.3 (10.2)</td>
<td>NS</td>
</tr>
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</table>
### Clinical Characteristics of Patients who Re-Attempt

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<tr>
<th></th>
<th>No</th>
<th>Yes</th>
<th>p</th>
</tr>
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<tbody>
<tr>
<td>CDRS-R (M, SD)</td>
<td>49.3 (12.3)</td>
<td>49.3 (12.3)</td>
<td>NS</td>
</tr>
<tr>
<td>BDI (M, SD)</td>
<td>20.6 (12.3)</td>
<td>32.3 (11.0)</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Duration of depression (weeks M, SD)</td>
<td>55.8 (56.2)</td>
<td>73.3 (54.0)</td>
<td>&lt; .05</td>
</tr>
<tr>
<td>Insomnia (%)</td>
<td>59 (59.6)</td>
<td>19 (76.0)</td>
<td>&lt; .05</td>
</tr>
</tbody>
</table>

### Psychological Characteristics and Risk of Re-attempt

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Yes</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anger / Hostility (ACQ)</td>
<td>89.5 (24.3)</td>
<td>91.3 (28.4)</td>
<td>.75</td>
</tr>
<tr>
<td>Emotionality (EASI)</td>
<td>45.1 (9.7)</td>
<td>48.1 (8.0)</td>
<td>.16</td>
</tr>
<tr>
<td>Number of borderline symptoms</td>
<td>1.6 (2.0)</td>
<td>2.4 (2.3)</td>
<td>.09</td>
</tr>
<tr>
<td>Hopelessness (BHS)</td>
<td>8.6 (6.0)</td>
<td>48.1 (8.0)</td>
<td>.003*</td>
</tr>
<tr>
<td>Anxiety (MASC)</td>
<td>44.7 (17.8)</td>
<td>53.5 (18.0)</td>
<td>.03*</td>
</tr>
</tbody>
</table>

### Family / Environment Characteristics and Risk of Re-Attempt

<table>
<thead>
<tr>
<th></th>
<th>No</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Physical abuse (N, %)</td>
<td>11 (12.0)</td>
<td>5 (20.8)</td>
<td>.26</td>
</tr>
<tr>
<td>Sexual abuse (N, %)</td>
<td>13 (14.1)</td>
<td>9 (37.5)</td>
<td>.009</td>
</tr>
<tr>
<td>FACES –II (M, SD)</td>
<td>39.6 (8.7)</td>
<td>35.7 (8.7)</td>
<td>.08</td>
</tr>
<tr>
<td>Adaptability</td>
<td>48.6 (12.3)</td>
<td>42.0 (10.2)</td>
<td>.02</td>
</tr>
<tr>
<td>Cohesion</td>
<td></td>
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</tbody>
</table>

### Conclusions

- Open feasibility trial of adolescent suicide attempters for 6 months; Because its open, cannot address comparative efficacy
- Tx trial in suicidal teens is feasible and acceptable
- High rate of treatment completion and follow-up
- Clinical predictors of suicidal event identified:
  - High levels of suicidal ideation
  - High levels of self-reported depression
  - History of maltreatment
  - Two or more previous attempts
  - Lower lethality of index attempt
  - Lower levels of family cohesion
- Risk for re-attempts lower than other studies
Conclusions

- 10/24 of suicidal events occurred within 4 weeks of intake into treatment.
- Many suicidal events took place before a time when an adequate “dose” of psychotherapy or medication was delivered.
- Important to use “front-loaded” interventions most likely to reduce risk of re-occurrence of suicidal behavior, e.g. safety planning.

Investigators for TASA

- NIMH (Ben Vitiello, Ann Wagner, Joanne Severe)
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- Dallas (Graham Emslie, Betsy Kennard, Taryn Mayes)
- Duke (Karen Wells, John Curry, John March)
- Johns Hopkins (John Walkup, Mary Cwik, Mark Riddle)
- Pittsburgh (Oscar Bukstein, David Brent, Tina Goldstein, Kim Poling)
- Consultants (Greg Brown (Penn), David Goldston (Duke))