Toward Reducing Suicidal Risk in Youth with Bipolar Disorder

Tina R. Goldstein, Ph.D.
Associate Professor
Western Psychiatric Institute and Clinic, University of Pittsburgh
goldsteintr@upmc.edu

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## Disclosures

<table>
<thead>
<tr>
<th>Source</th>
<th>Research Funding</th>
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<td>National Institute of Mental Health</td>
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<td>The American Foundation for Suicide Prevention</td>
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<td>Brain and Behavior Foundation</td>
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<td>Guilford Press</td>
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<td>University of Pittsburgh</td>
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Epidemiology and Risk Factors

Intervention:

• Dialectical Behavior Therapy (DBT)
• Brief Motivational Intervention (BMI)

To Improve Medication Adherence
Does Bipolar Disorder “Exist” in Children and Adolescents?

- At least 2% of adults in the US have bipolar disorder (BP)
  - ~ 25% report onset prior to age 12 (Perlis et al., 2004)
  - ~ 60% report onset prior to age 18 (Lish et al., 1994)

- Longitudinal data on childhood depression identified a subset of depressed youth with BP (e.g., Kovacs, 1996)

- 10 year delay between first symptoms and proper diagnosis (Goodwin & Jamison, 2007)
Child and Adolescent Bipolar Spectrum (CABS) Program at the University of Pittsburgh

- Multidisciplinary clinical research team

- Services we provide:
  
  - Intensive clinical evaluation
  - Medication management
  - Individual and family therapy

- Over 300 youth (ages 6-18+) with mood spectrum disorders treated annually

www.pediatricbipolar.pitt.edu
Suicidal Behavior in Pediatric Bipolar Disorder

- High risk for completed suicide among adults with BP
  - 25-50% attempt suicide at least once in lifetime
  - 8-19% die from suicide (Goodwin & Jamison 1990)

- Adults with early illness onset are at higher risk for suicidal behavior (Leverich et al 2003)

- BP in youth imparts elevated risk for completed suicide (Brent et al 1993)
Lifetime Suicidal Ideation Among Community Adolescents

Lewinsohn et al 1995

% of subjects with lifetime SI

- Bipolar: 72%
- Major Depression: 52%
- Subsyndromal Bipolar: 41%
Lifetime Suicide Attempt Among Community Adolescents

Lewinsohn et al 1995

<table>
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<tr>
<th>Condition</th>
<th>% of Subjects</th>
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<tr>
<td>Bipolar</td>
<td>44.4%</td>
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<tr>
<td>Major Depression</td>
<td>22.2%</td>
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<tr>
<td>No Psychiatric Disorder</td>
<td>1.2%</td>
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</table>
32% of COBY sample report lifetime suicide attempt at intake.
Clinical Factors Associated with Suicide Attempts Among Youth with Bipolar Disorder

Goldstein et al 2005

p < 0.05 for all; n=405
Mood State at the Time of Suicide Attempt Over Follow-Up Among Youth with Bipolar Disorder

Goldstein et al 2012
Family Stress is Associated with Suicidal Ideation Among Youth with Bipolar Disorder

Goldstein et al 2009

$p < 0.01$ for all
Greater Rates of Sleep Disturbance in the Preceding Week Among Youth who Died by Suicide vs. Controls

Goldstein et al 2008
The Association Between Sleep and Suicidality in US Adolescents (n=16,410)

- Suicidal Ideation
- Suicide Planning
- Suicide Attempt
- Attempt Requiring Treatment

Percent of Youth

- <4hrs of Sleep
- 5hrs of Sleep
- 6hrs of Sleep
- 7hrs of Sleep
- 8hrs of Sleep
- 9hrs of Sleep
- >10hrs of Sleep

Fitzgerald 2011
Factors Associated with Prospective Risk for Suicide Attempt in Youth with Bipolar Disorder

Nearly 20% attempt suicide over 5 years of follow-up
Over 40% of attempters re-attempt

The 8 weeks preceding attempt characterized by greater:

- weeks spent depressed
- weeks spent abusing substances
- psychosocial service use
Objectives

Epidemiology and Risk Factors

Intervention:

- Dialectical Behavior Therapy (DBT)
- Brief Motivational Intervention (BMI) to Improve Medication Adherence
Optimal treatment for early-onset bipolar disorder includes mood stabilizing medication and psychotherapy.

AACAP Treatment Guidelines for Children and Adolescents with Bipolar Disorder, 2007
What is Dialectical Behavior Therapy (DBT)?

Skills-based treatment originally developed for adults with Borderline Personality Disorder

DBT Treatment Hierarchy:

- Life-threatening behavior
- Therapy-Interfering Behavior
- Quality of Life-Interfering behavior

suicidal behavior
hospitalizations
substance use

social adjustment
treatment adherence

Linehan et al 1994; 1999; 2006
DBT for Adolescents with Bipolar disorder: Open Pilot Study
Suicidal Ideation Decreases Over 1 Year of DBT Treatment

Adolescent Longitudinal Interval Follow-Up Examination (A-LIFE) Weekly Suicidal Ideation Ratings
Goldstein et al unpublished data

Follow-Up Timepoint (Months)

% of weeks with SI

- Intake: 49%
- 3 months: 33%
- 6 months: 17%
- 9 months: 17%
- 12 months: 10%

p < 0.05
DBT for Adolescents with Bipolar Disorder

RCT: DBT versus Standard of Care

DBT associated with:

• 3x greater likelihood of improvement in suicidal ideation (SIQ; Suicidal Ideation Questionnaire)

• 2x greater mean rate of weeks euthymic over 1 year (ALIFE PSR; Adolescent Longitudinal Follow-Up Evaluation Psychiatric Status Ratings)

• Significant decrease in self- and parent-reported emotional dysregulation (CALS-C/CALS-P; Children’s Affective Lability Scale)

Goldstein et al 2014
K23 MH04579
**Intake Assessment**

- Ineligible
- Eligible

**Randomization**

- Refer for alternative treatment at CABS or elsewhere
- DBT + MM (1 year)
- SOC + MM (1 year)

**Follow-Up**

- 3 month FU
- 6 month FU
- 9 month FU
- 12 month FU
- 18 month FU
- 24 month FU

**fMRI**

**Grant Information**

- R01 MH100056
Objectives

Epidemiology and Risk Factors

Prevention/Intervention:

• **Dialectical Behavior Therapy (DBT)**
• **Brief Motivational Intervention (BMI)** to Improve Medication Adherence
“Drugs don’t work in patients who don’t take them.”

-Former U.S. Surgeon General C. Everett Koop
40% of doses not taken as prescribed over 3 months via objective assessment

Subjective report (self, parent, physician) significantly overestimates adherence

Non-adherence associated with:

• relapse
• hospitalizations
• costs (1 non adherent patient = 13 adherent patients)
• difficulty assessing appropriateness of treatment
• death by suicide and attempts (among adults)

(Gonzalez-Pinto et al 2006; Lopez-Castroman et al 2009)
The BMI for Improving Medication Adherence in Youth with Bipolar Disorder

- 3 sessions over 12 weeks (~30 minutes each)

- **Rationale:**
  - Overlap with med management visit schedule
  - Critical window for improving medication adherence occurs early in pharmacological treatment

- Parental involvement as clinically appropriate
The BMI is Associated with Improvements in Adherence with Time. Without the BMI, Adherence Declines with Time.

\[ p = .0001 \]

Goldstein et al. *in preparation*
Medication Adherence Improves with the BMI: Strongest Treatment Effect for Youth With LOW Baseline Adherence and HIGH Treatment Expectancy

\[ p < .0001 \]

Goldstein et al, in preparation

**Predicted Adherence Probability**

<table>
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<tr>
<th>Baseline Adherence</th>
<th>100% Expectation of Improvement</th>
<th>50% Expectation of Improvement</th>
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<tbody>
<tr>
<td>75%</td>
<td>Predicted Adherence Probability</td>
<td>Predicted Adherence Probability</td>
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<tr>
<td>50%</td>
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<td>25%</td>
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Conclusions

- Early-onset bipolar disorder is associated with elevated risk for suicide
- Promising psychosocial treatment models under examination (DBT, BMI)
- Dissemination of evidence-based treatments for this high-risk population holds promise to enhance outcomes
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Co-Investigators:
David Axelson, MD
Boris Birmaher, MD
David Brent, MD
Rasim Diler, MD
Antoine Douaihy, MD
Peter Franzen, PhD
Benjamin Goldstein, MD PhD
Danella Hafeman, MD
Dara Sakolsky, MD PhD

Consultants:
Marsha Linehan, PhD
David Miklowitz, PhD
Alec Miller, PsyD

Study Staff:
Rachael Fersch-Podrat, LCSW
Maria Garcia, MSW
Matthew Garcia, BA
Mary Kay Gill, RN
Sarah Gratzmiller, BA
Wonho Ha, PhD
Daniel Hackman, PhD
Christine Hoover, RN
Nina Hotkowski, LCSW
Emily Kane, MA
Megan Krantz, BA
Jessica Levenson, PhD
John Merranko, MA
Tiffany Painter, MSW
Barbara Pane, MSW

Gloria Pollard, RN, MA
Maribel Rivera, MD
Dawn Rice, MSW
Amy Schlonski, LCSW
Loren Sobel, MD
Adriane Soehner, PhD
Raeanne Sylvester, MA
Susan Wassick, RN
Leslie Wehman, MA
Timothy Winbush, MSW
Annette Wood, BA
Jessica Wrona, BA

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Donna Barham
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