**Suicidal ideation in young children:**

*Why does it arise and what does it mean?*

**Deanna M. Barch**
Co-Director, Cognitive Control and Psychopathology Laboratory,
Psychological & Brain Sciences, Psychiatry, and Radiology, Washington University

<table>
<thead>
<tr>
<th>Disclosure of Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Source of Research Support:</strong></td>
</tr>
<tr>
<td>• NIMH, NIDA, NIGMS, NIH Blueprint</td>
</tr>
<tr>
<td>• <strong>Consulting Relationships</strong></td>
</tr>
<tr>
<td>• None</td>
</tr>
<tr>
<td>• <strong>Stock Equity &gt;$10,000</strong></td>
</tr>
<tr>
<td>• None</td>
</tr>
<tr>
<td>• <strong>Participation in Speaker’s Bureaus</strong></td>
</tr>
<tr>
<td>• None</td>
</tr>
<tr>
<td>• <strong>Pharmaceutical Research Support:</strong></td>
</tr>
<tr>
<td>• None</td>
</tr>
</tbody>
</table>

**Depression as a Neurodevelopmental Disorder**

- Children at high risk for depression show altered emotion function
- Children at high risk for depression show altered brain function (EEG, fMRI in reward paradigms)
- Depression can start very early in childhood (as early as age 3)
- Early childhood depression predicts later childhood/early adolescent depression, including full clinical diagnoses of major depression (MDD)

**Validity of Preschool MDD**

- Data from at least 3 independent samples support the validity of preschool MDD (Luby et al., 2003, Luby et al., 2009, Klarm et al., 2012).
- Biological markers, familial transmission, and observational evidence provided (Luby et al., 2005, Luby et al., 2003, Luby et al., 2008).
- Evidence of impairment in multiple settings (Luby et al., 2009).
- Preschool MDD detected in at least four epidemiological samples (USA: Lavigne et al., 1996, Egger and Angold, 2006, Norway: Wichstrom et al., 2012, Buffard et al., 2012).

**Clinical Characteristics of PO-MDD**

- Depressed preschoolers display “typical” symptoms and vegetative signs of major depression.
- Depressed preschoolers show high levels of guilt, anhedonia, fatigue, sad/harmful and preoccupation with death/negative themes in play and suicidal ideation.
- Depressed preschoolers are functionally and developmentally impaired (according to parents and daycare/preschool teachers).

**Brain Structure and Function in PO-MDD**

- Increased activation in brain regions thought to reflect emotion reactions to sad stimuli — Barch et al., 2012 Bio Psych
- Altered patterns of brain connectivity suggestive of poor control of emotional reactions — Lusk et al., 2011 JAACAP, Gaffrey et al., 2012 JCPP
- Greater amygdala responses to negative emotions — Gaffrey et al., 2013 JAACAP
- Decreased volumes of brain regions thought to be important for emotion regulation, such as anterior insula and hippocampus — Belden et al., JAMA Psych, 2014, Barch et al., 2019, Psychiatry Research
- Reduced brain responses to positive stimuli like candy and happy people — Barden et al., 2016 JAACAP, Barch et al., 2016, B&D PSYCH
Reports of Suicidality in Young Children


Suicidality in Early Childhood

- Pfeffer et al., 72% of hospitalized children aged 6-12 exhibited some suicidal ideation
- Children with parent who attempts suicide 5 X greater risk of suicide attempt.
- Shows stability into later childhood.
- Early suicidal ideation may set stage for a maladaptive coping mechanism that increases risk of lethality later in life.

Preschool Depression Study (PDS)

Preschool Depression Treatment Study

- Children ages 3-7 screened from community and primary care sites across the St. Louis metropolitan area.
- Children with neurological disorders, ASD, significant development delay excluded.
- Baseline assessment includes clinical interview, assessment of psychosocial environment, parenting, emotion functioning etc.

Assessment of Suicidal Thoughts and Behaviors in Young Children

- Recurrent Thoughts of Death: Sometimes kids who get upset or feel bad get preoccupied with death. Has your child had these types of thoughts in the last month? When?
- Active Suicidal Ideation: Has your child ever had thoughts of dying or even killing themselves? What did they say? Did they have a plan? This is for children who directly state “I want to kill myself” or “I am going to kill myself.”
- Passive Suicidal Ideation: Has your child ever had thoughts of dying or even killing themselves? What did they say? Did they have a plan? This is for children who state “I wish I was dead,” “I wish I were never born,” or “I wish I would be better off dead.”
- Suicidal Acts-Intent: Judge the seriousness of suicidal intent as expressed in his suicidal act like, likelihood of being rescued, precautions against discovery, actions to gain help during or after attempt, degree of planning, apparent purpose of the attempt (manipulative or truly suicidal intent).
How many young children?

<table>
<thead>
<tr>
<th></th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicidal Idenation/Acts:</td>
<td>18.4</td>
<td>37</td>
</tr>
<tr>
<td>Active suicidal ideation</td>
<td>10.5</td>
<td>21</td>
</tr>
<tr>
<td>Passive suicidal ideation</td>
<td>14.0</td>
<td>28</td>
</tr>
<tr>
<td>Suicidal acts</td>
<td>2.0</td>
<td>4</td>
</tr>
<tr>
<td>Attempted suicide</td>
<td>2.0</td>
<td>4</td>
</tr>
<tr>
<td>Death Items:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recurrent thoughts of death</td>
<td>24.0</td>
<td>48</td>
</tr>
<tr>
<td>Death themes in play</td>
<td>13.9</td>
<td>28</td>
</tr>
<tr>
<td>Non-sucidal self-injurious behavior</td>
<td>25.4</td>
<td>51</td>
</tr>
</tbody>
</table>

Examples of Suicidal Young Children

  - Told school nurse and mom that he wanted to kill himself multiple times in the past month – screaming that everyone hates him and he wants to die. Mom reports his older brother also says he wants to kill himself. Tried to choke self (4 x in past month) by wrapping his hands around his throat and said he was trying to kill himself. Mom believes he was truly trying to kill himself (while other times where she felt it was more for attention).

Examples of Suicidal Young Children

- **WM 5.1 years**: Lives with parents and 3 siblings. Child has witnessed parental conflict and parents use corporal punishment. Children are home schooled. Mom with history of postpartum depression.
  - Child started making comments about wanting his Dad to kill him and wanting to kill himself or wishing he was dead in the last month. In the last month asked Dad to throw him into the street so that a car would hit him. He also tied tail of stuffed animal around his neck and said he wanted to stop breathing. Mom reported that he knew not breathing would mean he was dead.

Examples of Suicidal Young Children

- **BM 5.8 years**: Lives at home with parents and sister, parents planning to separate. Child told the school counselor that his dad hits his Mom and DCFS was called. Mom has a history of postpartum depression.
  - Said he wants to die/kill himself at school. Aunt has heard it at home. Attempted to strangle self while on school bus saying he wanted to die leaving bruises on neck. After driver intervened, he continued to try to choke self with hands and was taken to ER. He has continued to express suicidal ideation since. He told the principal that he is going to kill himself by choking himself and scratching himself with scissors until he bleeds. He has not acted on any of these threats, but has scratched his arms. He has displayed self harm when mad since age 3 (breaking the skin and leaving bruises).

Examples of Suicidal Young Children

- Compared to depressed preschoolers who are not having suicidal ideation
  - More severe depression
  - Worse function
  - More likely to be male
  - More likely to have an externalizing disorder diagnosis
  - Much greater feelings of worthlessness
  - More exposure to violent life events
  - Higher levels of authoritarian parenting

**What characterizes suicidal depressed young children?**

**Clinical and Psychosocial Characteristics of Young Children With Suicidal Ideation, Behaviors, and Non-suicidal Self-Injurious Behaviors**

- Justin L. Luby, MD, Sara M. Warner, MD, Rebecca Silver, MD, Donna M. Barty, MD
What does suicidal ideation in young children mean?

- Is this an actual wish to end one’s life?
- OR—is this just a non-specific expression of distress and emotional dysregulation?

Understanding of Death in Early Childhood

- Key components necessary to understanding death: irreversibility/finality, non-functionality, unpredictability, inescapability and universality.
- An understanding of these constructs arises between the ages of 4-12 (Slaughter & Griffiths, 2007)
- By age 4, children understand that death leads to a cessation in a human or animal’s ability to act (e.g., non-functionality) but that sleeping does not (Barrett and Behn, 2005)
- Concepts and understanding of death related to personal experience with death, religion and education.

Young Children’s Understanding of Suicide

- In healthy children
  - Only 10% of 6 year olds able to identify what “suicide” meant.
  - However, the majority were able to define and discuss “killing oneself” and could label methods of doing so (Mishara, 1999).
  - Understanding of suicide related to personal exposure (both in family and in media) to suicide and their cognitive maturity (Normand and Mishara, 1992).
  - This literature limited by exclusive focus on healthy children thus does not inform those with psychopathology.

Assessing Children’s Understanding of Death/Animacy

- Narrative approaches

"Joey is a boy who has a grandfather. Joey’s grandfather got old and was very sick. Because Joey’s grandfather was so sick, he had to go to the hospital. At the hospital, Joey’s grandfather went to sleep and did not wake up. Joey’s grandfather died, and he was buried in a grave in the graveyard. So, now that Joey’s grandfather has died…"

"Sara is a girl who has a grandmother. Sara’s grandmother got old and was very sick. Because Sara’s grandmother was in so much pain, she decided to end her own life. Sara’s grandmother took many of her pain pills so that she went to sleep and did not wake up. Sara’s grandmother had ended her life and was dead. She was buried in a grave in the Graveyard. So, now that Sara’s grandmother has died…”
Ask the child the following questions:

- How do you feel when you’re sad?
- How do you feel when you’re depressed?
- How do you feel when you’re upset?
- How do you feel when you’re angry?
- How do you feel when you’re worried?
- How do you feel when you’re afraid?
- How do you feel when you’re lonely?
- How do you feel when you’re alone?
- How do you feel when you’re anxious?
- How do you feel when you’re scared?
- How do you feel when you’re overwhelming?
- How do you feel when you’re overwhelmed?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
- How do you feel when you’re helpless?
- How do you feel when you’re hopeless?
What is Associated with Suicidal Ideation and Behaviors

<table>
<thead>
<tr>
<th>Passive SI</th>
<th>Non-Specific Active SI</th>
<th>Specific Active SI</th>
<th>Average</th>
<th>NSM</th>
</tr>
</thead>
</table>

DeVille et al., in press

Implications for Prevention and Treatment of Suicidality?

- Underscores importance of early identification of suicidal ideation
- Interventions might target early childhood feelings of self-worth — a very appropriate target in a parent-child therapy context.
- Such early interventions might harness experience-dependent neuroplasticity (brain change that is sensitive to psychosocial/environmental and therapeutic factors)

Future Directions

- What are the causes?
  - Exposure to violence?
  - Exposure to content in media?
  - Harsh parenting?
  - Witnessing maladaptive parental coping?
  - Feelings of low self-worth?
  - Family history of SI or exposure to suicidal behavior?