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Safe Alternatives for Teens and Youths (SAFETY):

A Cognitive-Behavioral Family Treatment for Suicide Attempt Prevention

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Nationwide Children's Hospital April 21, 2021

Disclosures/Sources of Funding

- Dr. Hughes receives royalties from Guilford Press.
- Dr. Hughes serves as a board member for the American Psychological Association (APA) Division 53, Society for Clinical Child and Adolescent Psychology (SCCAP); she receives a stipend for publishing the newsletter as part of her appointed position.
- The SAFETY project was supported by Grant YIG-0-132-11 awarded to Jennifer L. Hughes, PhD, MPH (Mentor: Joan R. Asarnow, PhD) from the American Foundation for Suicide Prevention. The content is solely the responsibility of the author and does not necessarily represent the official views of the American Foundation for Suicide Prevention.





Story of Jess

Jess arrives at the Emergency Department after her mother found her in the bathroom with several cuts on her arm. Jess says she came home from a party (where she had been drinking) and couldn't sleep, thinking about her "past mistakes." Jess's mother is upset and frustrated as Jess was discharged from the inpatient hospital 6 weeks ago, at which time she was treated for intentional ingestion of 20 pills. Jess had reported this event to be a suicide attempt, describing she felt very hopeless when thinking about a recent break-up with her boyfriend and a fight with her step-father about college plans. Jess had been discharged from the hospital with an outpatient plan, but had stopped attending therapy after a few sessions because she was "too busy" with schoolwork.

- •How can we help Jess and her family?
- •What can be done to address the self harm behavior?
- •How can we help Jess and her family navigate the mental healthcare system?



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Youth Suicide: The Numbers

- Suicide is a serious public health problem world-wide and in the United States
 - 2nd leading cause of death for 10-to-24-year-olds
- 4th leading cause of death for 5-to-14-year-olds
- 2017 Youth Risk Behavior Survey: in their lifetime,
 - 17.2% of US adolescents reported seriously considering suicide,
 - 13.6% had made a plan
 - 7.4% had made an attempt
 - 2.4% had required medical attention
- Among black youth, suicide attempts increased by 73 percent



2008 to 2015: Number of Youth Seen in Children's Hospitals Doubles

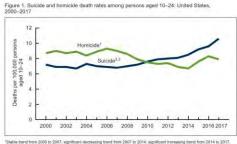
- Annual percentage of encounters identified as suicidality or self-harm more than doubled over the study period (Plemmons et al., 2018)
 - Increasing from 0.67 percent in 2008 to 1.79 percent in 2015
 - Significant increases in visits were noted in all age groups but were higher among older children
- Greatest risk in first 3 months after attempt, and approximately 30% of adolescent suicide attempters reattempt within 1 year (Bridge et al., 2006)



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Death by Suicide Increasing in Youth

• Suicide rates increased 56% among 10-24 year olds between 2007 and 2017, according to a new report from National Center for Health Statistics:



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Risk Factors for Suicidality

- Current or lifetime psychopathology (mood disorders most common)
- History of previous attempts or self-injurious behavior
- Hopelessness
- Impulsivity
- · Lack of affect regulation
- Poor problem-solving skills
- · Social skills deficits
- · Hostility and aggression
- Drug or alcohol abuse

- High situational stress
- Insomnia
- Parental psychiatric conditions
- · Family discord,
- · Childhood maltreatment history
- · History of peer victimization (bullying)
- · Availability of lethal agents
- Brent et al. (2000) found that suicide completion risk is increased if family has a handgun in the home
- Peer and media influence ("suicide contagion")

For recent review, see Cha et al., 2018, The Journal of Child Psychology & Psychiatry



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Protective Factors for Suicidality

- · Positive relationship with family
- Positive connection between child and school; adult and work
- Academic or work success
- Pro social peer group

- Religious affiliation
- · Fair number of reasons for living
- Future goals
- Treatment adherence

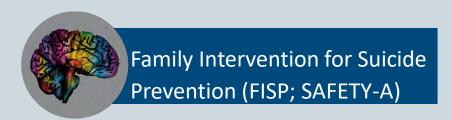


Need Treatments that work

- 55% of youths began treatment prior to suicidal behavior (and treatment failed to prevent behavior; Nock et al., 2013)
- Recent review of suicide/self-harm treatments (Brent et al., 2013)
 - Successful treatments:
 - · Focused on family interactions or non-familial support
 - · Included more sessions
 - Focused on motivation for treatment and coordination with other services
 - · Recommendations:
 - "Front-load" treatment sessions
 - Focus on protective factors (e.g., family, sources of support, positive affect)
 - Focus on important risk factors (e.g., promote healthy sleep, address substance risk)



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ED: Key Site for Intervening to Reduce Suicide

- Most youth who make medically serious suicide attempts are seen in the ED
- Youth tend to use more lethal methods with repeat attempts
- Most suicidal adolescents have substantial need for mental health services





ED: Window of Opportunity





ED: Point of Contact

- The ED visit is a major contact point for the large group of youth who receive little to no follow-up care:
 - <50% receive referrals for follow-up care (Piacentini et al., 1995; Spirito et al., 2000)
 - A large proportion never attend any follow-up sessions (77%) and many fail to complete a full course of treatment (Rotheram-Borus et al., 1996)



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Intervention: FISP to Address Suicide

Enhanced Mental Health Interventions in the Emergency Department: Suicide and Suicide Attempt Prevention

> Jennifer L. Hughes, PhD, Joan R. Asarnow, PhD

Asarnow, J.R., Baraff, L., Berk, M., Grob, C., Devich-Navarro, M., Suddath, R., Piacentini, J., Rotheram Borus, M.J., Cohen, D., & Tang, L. (2011). Effects of an emergency department mental health intervention for linking pediatric suicidal patients to follow-up mental health treatment: A randomized controlled trial. Psychiatric Services 62(11), 1303-1309.

Asarnow, J., Berk, M., Baraff, L. (2009). Family intervention for suicide prevention: A specialized emergency department intervention for suicidal youths. Professional Psychology: Research & Practice, 40, 118-125.

Hughes, J.L., & Asarnow, J.R. (2013). Enhanced mental health interventions in the emergency department: Suicide and suicide attempt prevention in the ED. Clinical Pediatric Emergency Medicine, 14, 28-34.



FISP: ED CBT

- Family Intervention for Suicide Prevention (FISP)
 - Tested in 2 EDs in LA County
 - 181 youth (ages 10-18, presenting with suicide attempts and/or ideation)
 - Randomized to FISP (n=89) or UC (n=92)
- Treatment: FISP vs. Usual Care enhanced by staff training
- At 2-month follow-up, FISP youth more likely to attend follow-up treatment (92% vs. 76% in UC, OR=6.2, p=.004).
- In exploratory analyses, linkage to outpatient community treatment as usual was not associated with improvements in clinical or functional outcomes





Family Intervention for Suicide Prevention (FISP)

- · Brief youth and family intervention session
- 5 main tasks:
 - Frame suicidality as a problem
 - Strengthen family support (e.g., family positives) and communication
 - Emotions thermometer to assist youth in identifying feelings, triggers, thoughts, and behaviors
 - Safety planning
 - Safety Plan Card and Hope Box
- Care Linkage calls to enhance motivation for outpatient treatment and provide referrals



Asarnow, Berk & Baraff, 2009 Medical Center

Family Intervention for Suicide Prevention (FISP)

- Designed for fast-paced ED environment
 - Successfully delivered in ED in 80.9%
 - Other locations: inpatient (12.4%), other community location (3.4%), by phone (2.2%), unknown (1.1%)
- Used MI approach to encourage follow-up, recognizing that follow-up care is affected by many factors:
 - Access
 - Type and quality of treatment available
 - · Insurance and cost
 - · Patient preference



Hughes & Asamow, 2013 Medical Center

What about inpatient hospitalization?

- The American Academy of Child and Adolescent Psychiatry (AACAP) 2001 Practice Parameter for Suicidal Behavior lists inpatient hospitalization as a "minimal standard" for high-risk suicide attempters
- Little research in evidence-based approaches to inpatient care, though it is widely used (Hoagwood et al., 2001)
- Studies suggest a shift toward shorter inpatient hospital stays, with more youths receiving care in outpatient settings
- There have been no randomized controlled trials to determine whether hospitalizing high-risk suicide attempters prevents death by suicide





Predictors and Outcomes of Psychiatric Hospitalization in Youth Presenting to the Emergency Department with Suicidality

Jennifer L. Hughes, PhD, Nicholas L. Anderson, PhD, Jessica L. Wiblin, BA, and Joan R. Asarnow, PhD





Were youth hospitalized in the FISP?

- In the FISP study, 124 of 177 (70%) of participants were hospitalized subsequent to presenting to the ED
- Factors predicting hospitalization (controlling for site):
 - Having a suicide plan and parent-rated high total problems (Wald $\chi 2$ =27.95, df=3, p<.000)
- Inpatient hospitalization was also associated with increased care linkage (91% vs. 67% in non-hospitalized, p=.001), but the FISP intervention effect remained significant when hospital status was included in the model.









SAFETY Development

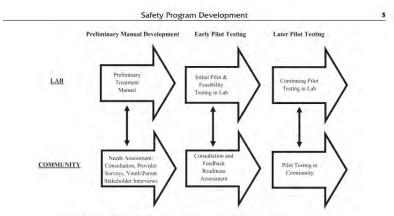


Figure 1. The "Incubator" Treatment Development Model. © Joan R. Asarnow, Ph.D





What is the SAFETY?

- 10-20 sessions over 3 months
- Treatment begins as soon as feasible after the ED visit or hospital discharge (for hospitalized youth)
- Session 1 is the FISP, done in the home
- Principle-guided, individually-tailored to address multiple determinants of suicidal behavior in diverse youths and families
- Individual, parent, and family components
- Reaching out to others in the child's environment in order to create a more supportive environment that will support adaptive behavior and engagement in pro-social activities

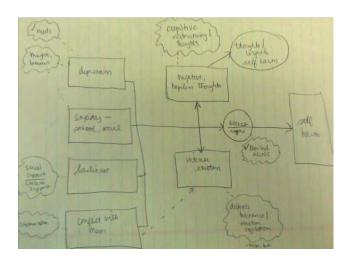


Case Conceptualization: Fit Analysis

- Individual factors
 - Informed by "chain analysis" (reconstruction of events, thoughts, feelings leading up to the suicide attempt to identify precipitants, motivation, intent, current reaction, reaction of environment)
 - Psychiatric symptoms (e.g, sleep difficulties, high anxiety, depressive symptoms)
 - Drug and/or alcohol use
- · Environmental factors
 - Family conflict, high expressed emotion
 - Parent psychiatric symptoms
 - · Peer and community
- Individual x environmental factors



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YOUTH PARENTS SAFETY Plan Emotion Regulation Distress tolerance Mindfulness Hope Kit SAFETY Plan Emotion Regulation Distress tolerance Mindfulness Hope Kit Stress Reactions SAFE/Helpful Thoughts
Education: Depression/Emotional Spirals
Self-Validation SAFE/Helpful Thoughts Education: Depression/Emotional Spirals Self-Validation **Thoughts** Increasing time in SAFE activities Problem-Solving Behavioral Activation ng time in "SAFE" activities Problem-Solving Activities/Actions Family Album Promoting SAFE Social Connections Building Social Support Support Seeking Strategies Social Skills Promoting SAFE Social Connections Listening & Validation Communication Skills Parent Self Care & Wellness People Settings Increasing Time in SAFE Settings SA Means Restriction Support Seeking Strategies Ecological Analyses Increasing Time in SAFE Settings SA Means Restriction Support Seeking Strategies Ecological Analyses

Figure 1. SAFETY Pyramid: Conceptual Model and youth and parent intervention modules and foci.



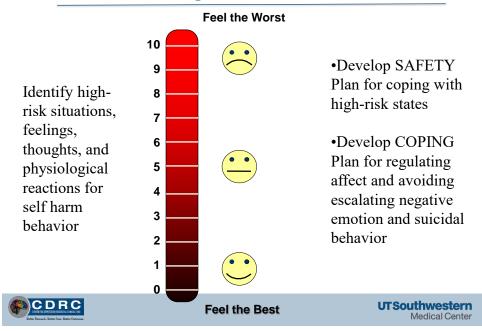


SAFETY: Youth Sessions

- Increasing positive interactions and family support
- Reframing the suicide attempt as a maladaptive coping/problem-solving strategy
- Teaching youth how to regulate emotions/triggers that precede suicidal episodes
- Developing a plan for coping with future suicidal crises, youth and parent



Feelings Thermometer



Feelings Thermometer

	Situation	Reactions
10	Break-up with boyfriend	Thoughts: "I'll never get another boyfriend," "I'm worthless," "If nobody loves me I might as well die" Feelings: Anger, sadness, shame Behaviors: Cry, suicide attempt Body sensations: hot, flushed face, fatigue
7	Doing poorly in school	Thoughts: "I'm stupid," "I am a loser." Feelings: Sadness, embarrassment Behaviors: Stay in my room, give up Body sensations: body feels heavy, tired



Feelings Thermometer

	Situation	Reactions
5	Nothing to do	Thoughts: "I'm bored" Feelings: Feel neutral, a little irritated, restless Behavior: Watch television, call friends or boyfriend Body sensations: no noticeable body sensations
0	Chilling with friends	Thoughts: "This is fun," "I like my life." Feelings: Happy, content Behaviors: laughing, talking with friends, doing activities like movies and shopping Body sensations: a lot of energy, feeling light



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Safety Plan: Youth Given A SAFETY Plan Card With Coping Strategies & Emergency Phone Numbers



Safety Plan

- Plan to help youth stay safe until next treatment session
- Specific set of coping strategies and sources of support
- · Coping thoughts
- Strategies (distraction, soothing)
- Support (distraction vs. talk about urges)
- · Clinical contact information
- Share with parents to address any obstacles and to identify opportunities for parent support





Coping plan

Situation	Plan
See ex-boyfriend at school	 "It feels hard now AND it will get better." "I wasn't going to marry him anyway!" Take deep breaths (focus on pacing; notice temperature difference) Focus on school work Find best friend for support Talk to Mrs. P (English teacher) or Ms. C (counselor) Use SAFETY Plan or hope kit Call Mom Call Dr. Jenny for coaching



Commitment

- Work with youth to make a commitment to no suicidal behavior for a specified period of time:
 - NOT a "no harm contract" (evidence these aren't effective)
 - An agreement to use skills, safety plan, or seek support before trying to hurt self
 - "Commit that if you feel suicidal you will call ____ (not leave a message) and/or another person (list) about your feelings before you try to hurt yourself"





Hope Kit

- · Paired with SAFETY plan
 - Items to use for distraction, soothing
 - Reminders of other SAFETY plan items (e.g., picture of favorite band)
- Specific (tangible) reasons for living
 - Reminders of the "good times" (e.g., pictures, vacation souvenirs)
 - Future-oriented items (e.g., bucket list, pictures of places to visit, reminders of future goals)
- Meaningful letters or notes from family, friends (e.g., thanks notes)
- Copies of coping cards developed in treatment



SAFETY: Parent Sessions

- Parent education regarding the importance of follow-up treatment
- Parent education regarding increased supervision, means restriction (Kruesi et al., 1999), and provision of lock box
- Strengthening family communication and relationships through active listening and problem solving
- Enhancing parent coping skills through feelings thermometer, parent SAFETY plan, skills
- Addressing parent treatment needs through education and referral



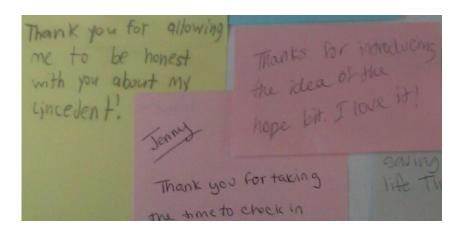
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SAFETY: Family Sessions

- Capsule summaries of youth and parent sessions
- Provide education about positive communication styles (e.g., "Thanks Notes")
- Have youth and family practice active listening skills
- Provide education about and practice effective problem solving
- Identify potential triggers and supports within the family system

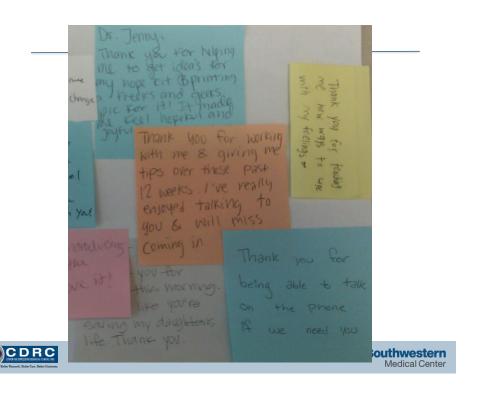


Thanks Notes









Safety Phase I Study Design

- Open trial of SAFETY intervention
- Youths and families received 12 weeks of intervention
- Outcome assessments at 3- and 6-months (brief)
- Goals: to test feasibility and acceptability of intervention

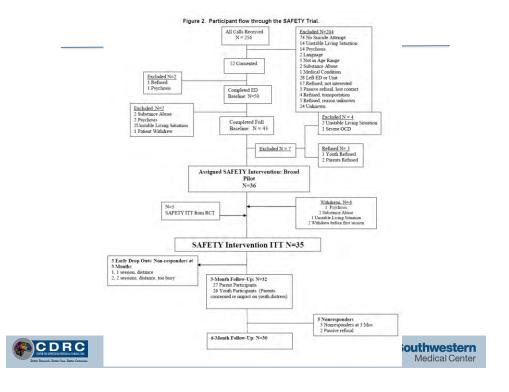




SAFETY Phase I Eligibility Criteria

- 12 18 years of age
- Admitted to the ED/hospital for a suicide attempt or referred to the study from an outside source (i.e. community agency/hospital, inpatient facility)
- Have attempted suicide within past 3 months of study participation
- Have a parent present and willing to provide informed consent (if under 18)





Sample

	Mean or Frequency	SD or %
Age, in years	14.89	1.60
Gender)		
Male	5	14.3%
Female	30	85.7%
Race, % (N)".	3/4	A Place A
White	14	40%
Hispanic	12	34.3%
African American	4	11.4%
Asian-Other	5	14.3%
Emergency Department Visit for Suicidal Behavior	34	97%
Inpatient Hospitalization	30	86%
Number of Lifetime Suicide Attempts 1 2 3 4 5	19 6 6 1	54% 17% 17% 3% 9%
Nonsuicidal Self-Injurious Behavior (NSSI)	20	57%
Youth, Major Depressive Disorder (MDD, DISC) Total MDD + Intermediate MDD	16 25	40 % 62.5 %
Severe Depressive Symptoms, CES-D ≥ 24	20	50 %
DUSI, Problematic Substance Use	20	57%
CBCL Externalizing, Clinical Range	12	34%
CBCL Internalizing, Clinical Range	16	46%
CBCL Total Problem Behavior, Clinical Range	18	51%



Safety Phase I Study Results

- Suicide attempt:
 - 3% at 3-month assessment
 - 6% at 6-month assessment
- 3-month Outcomes
 - Suicidal ideation and behavior (HASS Total Mean score): 16.40 (SD=13.52) to 11.04 (SD=12.05); p<.05
 - Depressive symptoms (CES-D Mean score): 24.54 (SD=12.33) to 13.69 (SD=9.83); p<.001
 - Hopelessness (BHS Total Mean score): 8.86 (SD=5.70) to 3.94 (SD=3.79); p<.001
 - Parent depressive symptoms (CES-D Mean score): 20.26 (SD=13.34) to 10.86 (SD=8.55); p<.01
 - Improvements in Social Adjustment Scale across all domains (total score, school, peer, family, and spare time)
- High youth and parent satisfaction





SAFETY Phase II Planning

- Results of Phase I SAFETY Study were promising
- Community provider partners stressed need for training in intervention to address NSSI and /or suicide
- Awarded an American Foundation for Suicide Prevention (AFSP) Young Investigator grant to adapt SAFETY to an at-risk group (youth engaging in NSSI)



Why use SAFETY with NSSI youth?

- Treatment associated with reductions in suicide attempt behavior, suicidal ideation, depression, and hopelessness
- \bullet In SAFETY Phase I, 54.5% of youths presented with NSSI at baseline, and 57% reported lifetime NSSI
- At follow-up, NSSI was reported for 10 youths (30.3% of sample)



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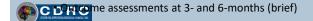
Manual Adaptations for NSSI

- Psychoeducation regarding the prevalence and function of NSSI behavior and the relationship between NSSI behavior, depression, and suicide attempt risk
- Module to address readiness for change (using motivational interviewing approach to address NSSI behavior change)
- Distress tolerance modules strengthened
- Increased DBT influence



SAFETY Phase II Study Design

- Eligible youth and families randomized to:
 - SAFETY
 - Enhanced Treatment As Usual (E-TAU)
- SAFETY: Youths and families received 12 weeks of intervention
- Enhanced Usual Care: 1 parent session with therapist addressing youth suicide risk, lethal means restriction, and importance of outpatient treatment, plus care linkage calls



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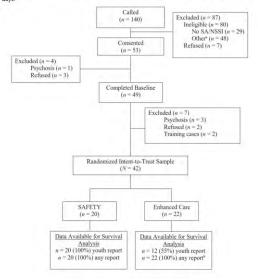
SAFETY Phase II Study Eligibility Criteria

- Inclusion criteria:
 - Ages 11-18
 - Admitted to the ED/hospital for a suicide attempt or referred to the study from an outside source (i.e. community agency/hospital, inpatient facility)
 - Present with clinically significant self harm behavior (NSSI episode in past 3 months; NSSI as presenting problem; total of 2 or more NSSI lifetime episodes) OR suicide attempt in the past 3 months
 - Parents willing to participate



ASARNOW et al.

FIGURE 1 Participant flow. Note: NSS1 = nonsuicidal self-injury; SA = suicide attempt; SAFETY = Safe Alternatives for Teens and Youths. *Unstable living situation, n=13; psychosis, n=3; substance abuse, n=2; language, n=2; age, n=5; medical condition, n=1; left emergency department or unit, n=11; unknown or not reachable, n=11. b=6 based on early report, within first 30 days.



Sample

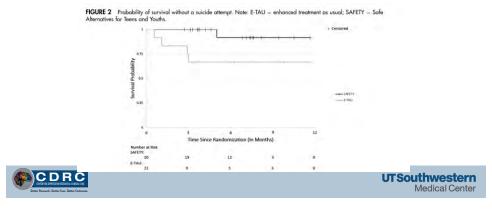
TABLE 1 Sample Description at Baseline

	Overall (N = 42)	SAFETY (n = 20)	Enhanced TAU (n = 22)
Demographic Characteristics			
Age, y, mean (SD)	14.62 ± 1.83	14.35 ± 1.81	14.86 ± 1.86
Female sex	37 (88.1)	18 (90.0)	19 (86.4)
Race/ethnicity			
White (non-Hispanic)	35 (83.3)	18 (90.0)	17 (77.3)
African American	2 (4.8)	1 (5.0)	1 (4.6)
Hispanic/Latino	9 (21.4)	4 (20.0)	5 (22.7)
Asian	5 (11.9)	1 (5.0)	4 (18.2)
Other	3 (7.1)	1 (5.0)	2 (9.1)
Family annual Income			
\$15,000-29,999	5 (11.9)	2 (10.0)	3 (13.6)
\$30,000-49,999	5 (11.9)	3 (15.0)	2 (9.1)
\$50,000-74,999	7 (16.7)	5 (25.0)	2 (9.1)
Clinical Variables			10.00
SA, past 3 months	21 (50.0)	10 (50.0)	11 (50.0)
Nonsuicidal self-injury, past 3 months	21 (50.0)	10 (50.0)	11 (50.0)
>1 Lifetime SA	9 (21.4)	4 (20.0)	5 (22.7)
Major depression, past year	21 (54.8)	8 (40.0)	15 (68.2)
Problematic substance use	20 (47.6)	10 (50.0)	10 (45.5)
Youth Self-Report			
Externalizing behavior, clinical range	13 (30.95)	7 (35.0)	6 (27.3)
Internalizing behavior, clinical range	30 (71.7)	13 (65.0)	17 (77.3)
Parent Child Behavior Checklist			
Externalizing behavior, clinical range	16 (38.1)	5 (25.0)	11 (50.0)
Internalizing behavior, clinical range	30 (71.7)	13 (65.0)	17 (77.3)



SAFETY Phase II Study Results

- Suicide attempt:
 - 0 attempts in SAFETY group at 3-month assessment
 - 6 attempts in the E-TAU (2 youth with single actual attempts, 1 youth with one actual attempt and one interrupted attempt, 1 youth with three actual attempts)



SAFETY Phase II Study Results

- Repeat NSSI behavior
 - No significant differences between the conditions
- Perhaps more intensive treatment is needed to address this behavior, such as more comprehensive DBT model



SAFETY: Clinical Implications

- Strengthening connectedness between youths and parents can provide protection when youths experience suicidal urges
- Enhancing BOTH youth and parent communication skills can build hope that parents can successfully guide children through these crises and hope in youth that parents can help them deal with unbearable pain or unsolvable problems
- Assessment of the unique risk and protective processes for each youth and family, along with tailored intervention targets, provides an alternative to "one-size-fits-all" models



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Future Directions

- Shift SAFETY intervention into alternative settings (e.g., inpatient, partial, day treatment, intensive outpatient, schools)
- Design approach to testing modules/treatment targets; how to structure assessment that results in treatment targets/modules (i.e., quantify "fit analysis")?
- Effectiveness study to test SAFETY intervention in community settings



Thanks: SAFETY Study Team

- · Joan Asarnow, PhD, ABPP
- Jennifer Hughes, PhD, MPH
- Michele Berk, PhD
- · Veronica Barbery, LMSW
- · Claudia Avina, PhD
- Pascale Stemmle, PsyD
- · Nick Anderson, PhD
- Kalina Babeva, PhD
- Marta Orozco, PhD
- Steven Rudoy, PhD

- Minh Chau Do, PhD
- Talin Arslanian, MD
- Ben Nelson, PhD
- · Jessica Wiblin, PhD
- Fantastic UCLA undergraduate volunteers!







Thanks: It Takes a Village

- Thank you for inviting me to share our work today!
- Thanks to my mentors, Betsy Kennard, PsyD, Graham Emslie, MD, Sunita Stewart, PhD, and Munro Cullum, PhD (UT Southwestern), Joan Asarnow, PhD, John Piacentini, PhD, and Jim McCracken, MD (UCLA), Cheryl King, PhD (University of Michigan), and Neal Ryan, MD (Western Psychiatric Institute, Pittsburgh).
- Thanks to my DBT mentor, Michele Berk, Ph.D. (Harbor-UCLA, now Stanford).
- Thanks to my LA DBT Team: Michele Berk, PhD, Claudia Avina, PhD, Keegan Tangeman, PhD, Joan Asarnow, PhD, Adriana Carrillo, LCSW, and Jamie Bedics, PhD., and other CARES study mentors/collaborators: Marsha Linehan, PhD, Elizabeth McCauley, PhD, Katie Korslund, PhD, Claudia Avina, PhD, and Molly Adrian, PhD.



Questions?

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