

MAKING AN IMPACT ON TEEN ALCOHOL USE AND SUICIDE BY TARGETING HIGH RISK POPULATIONS WITH MOTIVATIONAL INTERVENTIONS

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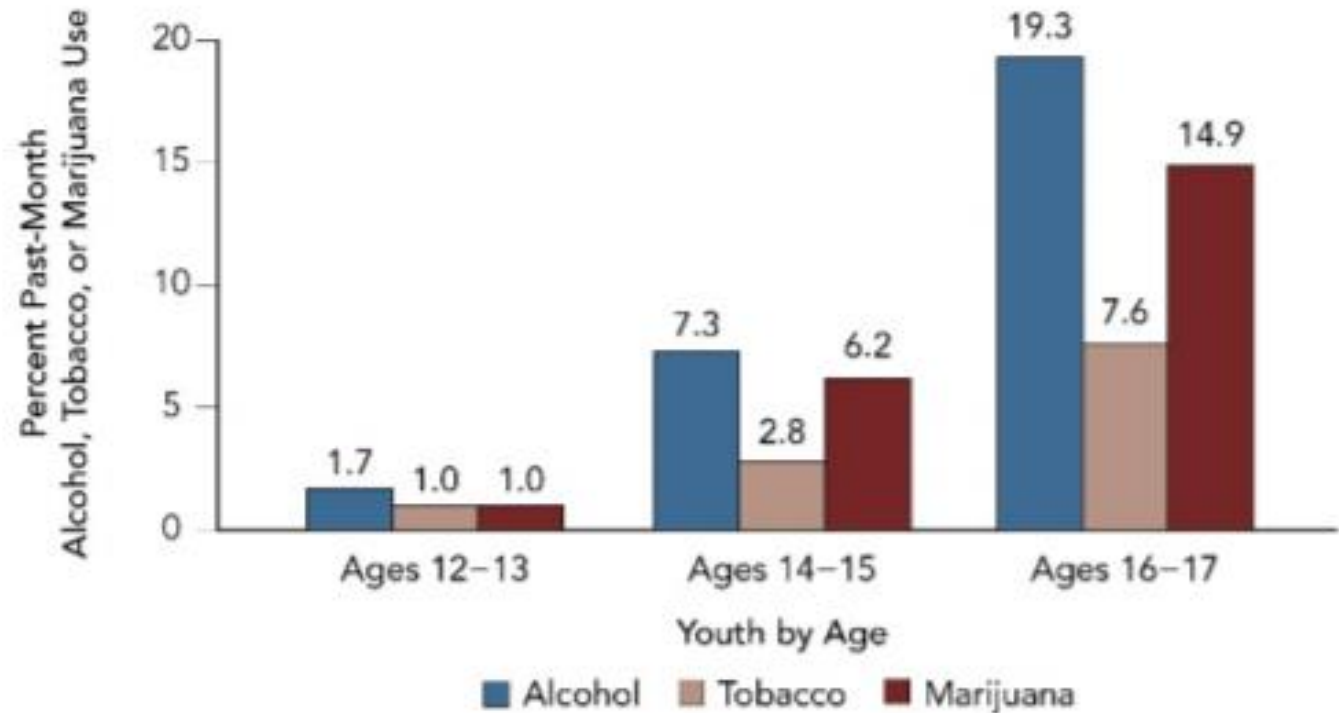
Disclosures



I have nothing to disclose.

Alcohol remains the substance of choice among teens

More adolescents use alcohol than tobacco or marijuana

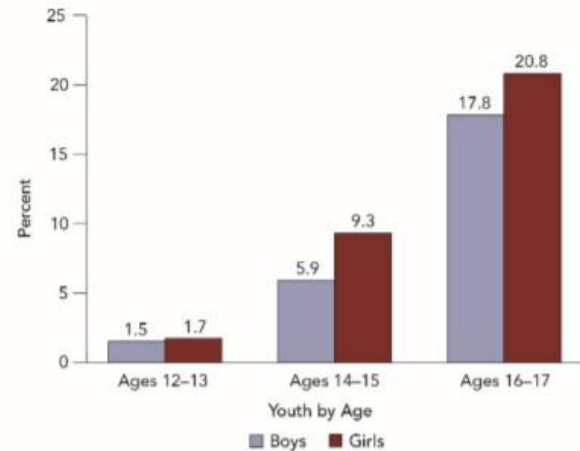


SOURCE: 2019 National Survey on Drug Use and Health. Tables 2.6B, 2.2B, and 1.7B. Accessed 10/15/20.

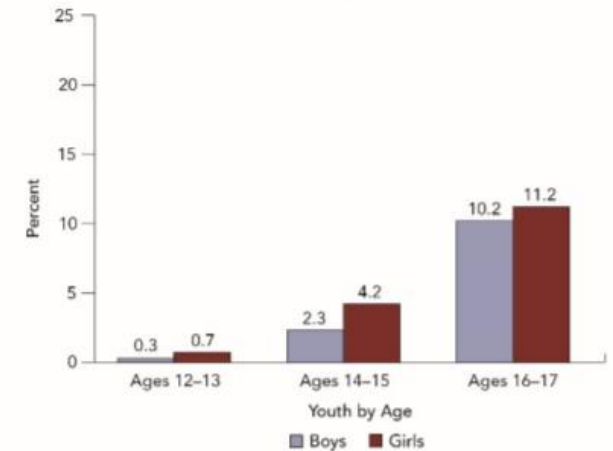
Gender roles are changing with respect to alcohol use

Historically, adolescent boys were more likely to drink and binge drink than girls. Now, that relationship has reversed. Alcohol use has declined more in recent years among adolescent boys than it has in girls. As a result, more adolescent girls report alcohol use and binge drinking than boys.^{6,7}

**A Comparison of U.S. Boys and Girls:
Past-Month Alcohol Use**



**A Comparison of U.S. Boys and Girls:
Past-Month Binge Drinking**



SOURCE: Population prevalence estimates (%) are weighted by the person-level analysis weight and derived from the Center for Behavioral Health Statistics and Quality. *2019 National Survey on Drug Use and Health Public Use File Codebook*. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2020.

NOTE: In NSDUH, binge alcohol use is defined as drinking 5 or more drinks on the same occasion for males or 4 or more drinks on the same occasion for females on at least 1 day in the past 30 days. Any alcohol is defined as a drink of an alcoholic beverage (a can or bottle of beer, a glass of wine or a wine cooler, a shot of distilled spirits, or a mixed drink with distilled spirits in it), not counting a sip or two from a drink.

**Suicide is
the second
leading
cause of
death
among teens**

**Suicide is the #1
cause of death for
14-15 year olds!**

Leading Cause of Death in the United States for Select Age Groups (2019)							
Data Courtesy of CDC							
Rank	10-14	15-24	25-34	35-44	45-54	55-64	All Ages
1	Unintentional Injury 778	Unintentional Injury 11,755	Unintentional Injury 24,516	Unintentional Injury 24,070	Malignant Neoplasms 35,587	Malignant Neoplasms 111,765	Heart Disease 659,041
2	Suicide 534	Suicide 5,954	Suicide 8,059	Malignant Neoplasms 10,695	Heart Disease 31,138	Heart Disease 80,837	Malignant Neoplasms 599,601
3	Malignant Neoplasms 404	Homicide 4,774	Homicide 5,341	Heart Disease 10,499	Unintentional Injury 23,359	Unintentional Injury 24,892	Unintentional Injury 173,040
4	Homicide 191	Malignant Neoplasms 1,388	Malignant Neoplasms 3,577	Suicide 7,525	Liver Disease 8,098	CLRD 18,743	CLRD 156,979
5	Congenital Anomalies 189	Heart Disease 872	Heart Disease 3,495	Homicide 3,446	Suicide 8,012	Diabetes Mellitus 15,508	Cerebro-vascular 150,005

**Male teens
die by
suicide ~3x
more than
females**

Suicide Rates by Age Group (per 100,000; 2019)

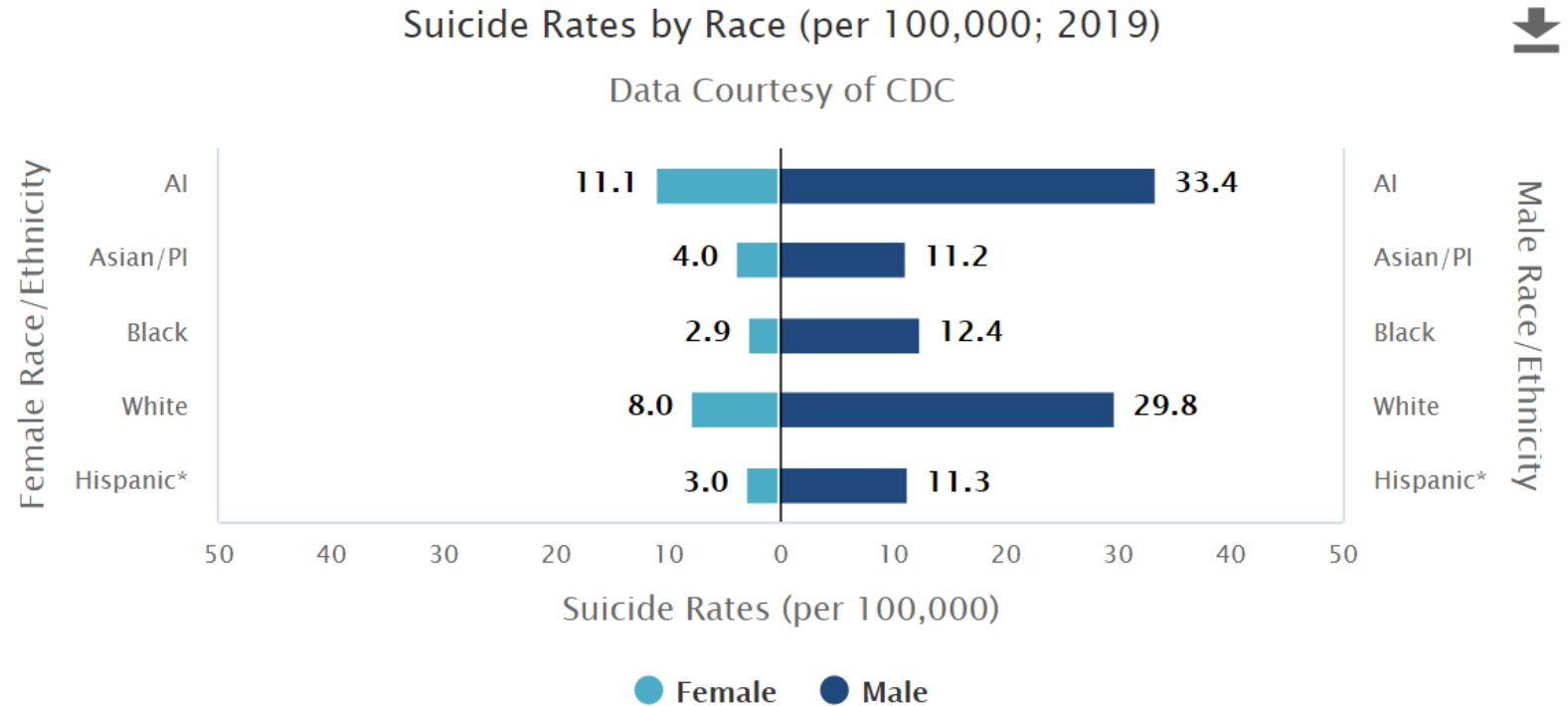
Data Courtesy of CDC



The rate of suicide by females is increasing relative to males, and this is related to the adoption of more lethal means

Native American teens are adversely affected by suicide

The suicide death rate among Black youth has been found to be increasing faster than any other racial/ethnic group.



*Persons of Hispanic origin may be of any race; all other racial/ethnic groups are non-Hispanic
AI = American Indian, PI = Pacific Islander

LGBTQ teens are at highest risk for suicide

THE TREVOR PROJECT National Survey on LGBTQ Youth Mental Health 2021

Need Help? We are here for you 24/7:
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SUICIDE & MENTAL HEALTH

42% of LGBTQ youth seriously considered attempting suicide in the past year, including **more than half of transgender and nonbinary youth**.



12% of white youth attempted suicide compared to **31% of Native/Indigenous youth**, **21% of Black youth**, **21% of multiracial youth**, **18% of Latinx youth**, and **12% of Asian/Pacific Islander youth**.

Intersectionality Matters!!

The relationship between alcohol and suicide is complex with respect to directionality and temporality



Clinical Psychology Review

Volume 28, Issue 8, December 2008, Pages 1283-1296



Adolescent alcohol involvement and suicide attempts: Toward the development of a conceptual framework

Courtney L. Bagge , Kenneth J. Sher

The present article provides a conceptual framework of the relation between alcohol involvement (A) and suicide attempts (S). This framework can be broadly construed to reflect two dimensions: *directionality* (direction of causality; $A \rightarrow S$, $S \rightarrow A$, or a spurious relation) and *temporality* (distinguishing between proximal and distal effects of both behaviors). We review and evaluate the evidence on the association between A and S among adolescents using this conceptual framework as a guide. The extant data suggest that this relation is complex and not fully understood. Further, it seems unlikely that a single approach will be found to determine direction of causality, and the specification and validation of hypothesized mechanisms will involve a variety of different types of evidence. Suggestions for additional research using informative designs are discussed.

How can we make an impact on alcohol use AND suicide in the teen population?

- Target teens at high risk for both alcohol use and suicide
 - Consider inpatient psychiatric units, intensive outpatient substance use treatment programs
- Treat both problems simultaneously, in an integrated fashion
 - Despite the strong link between alcohol use and suicide-related thoughts and behaviors, the standard of care is to treat these two problems separately

Motivational interventions are evidence-based with adolescents



Journal of Substance Abuse Treatment

Volume 51, April 2015, Pages 1-18



Brief Alcohol Interventions for Adolescents and Young Adults: A Systematic Review and Meta-Analysis

Emily E. Tanner-Smith Ph.D. , Mark W. Lipsey Ph.D.

Highlights

- Brief alcohol interventions for youth yield modest beneficial effects.
- Effects persist for up to 1 year after intervention receipt.
- Decisional balance and goal-setting exercises are beneficial for adolescents.
- Effects are consistent across diverse settings, formats, and populations.

Brief Alcohol Intervention Study: Purpose



- 1 Test the feasibility and acceptability of a brief motivational enhancement intervention for alcohol use with suicidal adolescents in inpatient psychiatric treatment who report past month drinking.
- 2 Assess preliminary intervention effects on alcohol use and suicide ideation and attempts.

Brief Alcohol Intervention Study: Intervention

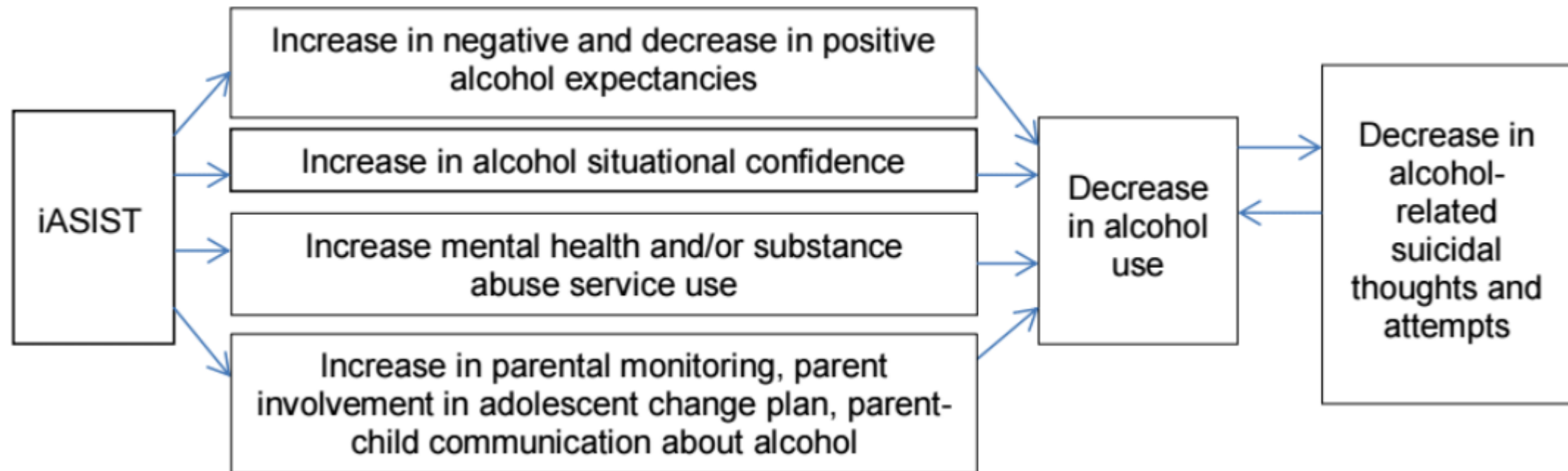


integrated Alcohol and Suicide Intervention for Suicidal Teens (iASIST)

- iASIST consists of one 60-90 minute session which includes the following components: establishing rapport, assessing and enhancing motivation for change, envisioning the future, and establishing goals, strategies, and a change plan.
- Additionally, a 30-45 minute family session in which the adolescent discusses the goals, strategies, and change plan for reducing alcohol use with the parent, focusing on specific ways the parent can support the adolescent in the change process (e.g., parental monitoring, parent-child communication about alcohol).
- An app was created for adolescents and parents to use post-hospitalization that contained intervention content to act as a booster.

The protocol was specifically developed to address alcohol use as a risk factor for continued suicide ideation, plans, and attempts.

Brief Alcohol Intervention Study: Conceptual Model



Brief Alcohol Intervention Study: Methods



Design:

- This study used a randomized trial (N=40) to compare iASIST to an attention-matched control condition receiving psychoeducation and an app on sleep, diet, and exercise with adolescents psychiatrically hospitalized for a suicidal event who reported alcohol use in the past month.

Methods, cont.

Measures:

- Feasibility and acceptability of iASIST were assessed with withdrawal and completion rates as well as session evaluation forms.
- Exploratory alcohol- and suicide-related outcomes were measured at baseline (BL) and 3 month follow-up (FU) with the *Timeline Follow-back Interview (TLFB)* and *Columbia Suicide Severity Rating Scale (C-SSRS)*.

Variables	Intervention		Control	
	N	M (SD)/%	N	M (SD)/%
Age	22	15.82 (1.10)	18	15.83 (1.04)
Ethnicity				
Latino	6	27%	6	33%
Race				
Asian	1	5%	1	6%
Black/African American	2	9%	2	11%
White	14	64%	12	67%
Other	4	18%	3	17%
More than one race	1	5%	0	0%
Sexual Orientation				
Heterosexual	13	59%	11	61%
Gay/Lesbian/Homosexual	1	5%	2	11%
Bisexual	6	27%	5	28%
Not sure	2	9%	0	0%
Gender				
Male	6	27%	6	33%
Female	14	64%	11	61%
Transgender, does not identify as M or F	1	5%	1	6%
Decline to state	1	5%	0	0%
Suicide attempts				
None	11	50%	7	39%
One	8	36%	10	56%
More than one	3	14%	1	6%
Substance use				
Marijuana	14	64%	14	78%
Cocaine	2	9%	0	0%
Crystal meth	1	5%	0	0%
LSD	3	14%	3	17%
PCP	0	0%	0	0%
Inhalants	0	0%	1	6%
Opioids	0	0%	0	0%
Prescriptions	8	36%	6	33%
Tobacco	8	36%	6	33%
Vape (tobacco)	15	68%	13	72%
Vape (marijuana)	11	50%	12	67%

Brief Alcohol Intervention Study: Results - Feasibility, Acceptability



22 Randomized to
Experimental Group

18 Randomized to Attention-
Matched Comparison

All 22 in the experimental group:

- completed the individual intervention and family intervention during their inpatient hospitalization;
- expressed satisfaction with the intervention; and
- created a change plan.

All but one agreed that the clinician helped them understand how their alcohol use was related to their suicidal thoughts and attempts.

The app was only used by 11 teens and 7 parents, in part due to continued hospitalization or phone limits being set.

Brief Alcohol Intervention Study: Results - Preliminary Effects



Measure	Intervention		Control		F	p
	BL	3mo	BL	3mo		
	M (SD)	M (SD)	M (SD)	M (SD)		
Importance in reducing alcohol use	33.67 (21.59)	54.00 (25.09)	36.92 (27.12)	47.54 (28.42)	0.78	0.3866
Confidence in reducing alcohol use	72.00 (18.97)	71.67 (29.32)	75.07 (26.24)	73.57 (22.48)	0.02	0.9008
Alcohol use frequency	8.76 (8.93)	1.67 (2.96)	8.00 (8.93)	1.28 (1.56)	0.23	0.6322
Alcohol use quantity (# drinks)	43.81 (55.02)	6.33 (11.17)	40.17 (59.84)	4.92 (8.32)	0.17	0.6814
Cannabis use frequency	16.77 (30.40)	0.68 (1.59)	25.67 (31.29)	5.56 (7.98)	6.74	0.0134
Cannabis use quantity (# sessions)	35.91 (78.88)	1.18 (3.25)	68.94 (140.50)	6.22 (8.82)	5.05	0.0307
Suicide ideation severity	55.27 (20.09)	35.53 (15.26)	51.21 (24.01)	28.64 (19.75)	0.87	0.3599
Prescription drug use frequency	2.73 (7.67)	0.23 (0.87)	1.33 (2.47)	0.06 (0.24)	0.76	0.3886
Tobacco use frequency	4.41 (16.52)	0.09 (0.29)	6.22 (21.10)	1.06 (2.98)	2.20	0.1463
Tobacco use quantity	54.00 (247.04)	0.14 (0.47)	6.11 (21.14)	1.22 (3.59)	1.94	0.1717
Tobacco vaping frequency	21.36 (31.35)	3.77 (8.11)	33.39 (35.13)	6.28 (17.62)	0.23	0.6359
Cannabis vaping frequency	12.57 (19.38)	1.67 (7.41)	18.17 (28.58)	4.94 (10.43)	0.96	0.3334
Suicidal ideation frequency	41.67 (32.70)	23.29 (27.06)	43.72 (32.33)	21.17 (27.17)	0.14	0.7092
Suicide plan frequency	1.81 (1.72)	0.33 (0.58)	0.89 (0.76)	1.28 (3.10)	2.08	0.1576
Suicide attempt frequency	0.62 (0.74)	0.19 (0.51)	0.67 (0.59)	0.39 (0.98)	0.62	0.4349
NSSI frequency	7.81 (16.05)	4.76 (8.59)	12.39 (25.66)	5.67 (9.94)	0.00	0.9776

Brief Alcohol Intervention Study: Conclusions



- A brief motivational alcohol intervention is feasible and acceptable to psychiatrically hospitalized suicidal adolescents and may help to reduce their amount of alcohol use, and possibly other substances, at 3 months.
- The app was not utilized to its potential following hospitalization because of being in hospital/residential level of care or having phone limits set during the 3 months post-hospitalization.
- A larger fully powered study with a longer follow-up period is needed to test intervention effects and potential mediators and moderators.
- A future test of the intervention should consider replacing the app with a brief telehealth booster upon transition out of hospital level of care.

Acknowledgements



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THANK YOU

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Results: Acceptability

		Kids		Parents		Kids		Parents	
	n (%)		n (%)		n (%)		M (SD)		M (SD)
SEF_1	17 (81)	Overview	22 (100)	Overview	22 (100)	Partnership	4.91 (0.29)	Partnership	4.91 (0.29)
SEF_2	19 (90)	Personal resp.	22 (100)	Share plan	22 (100)	Compassion	4.95 (0.21)	Compassion	5.00 (0.00)
SEF_3	16 (80)	DB	22 (100)	Discuss plan	21 (95)	Acceptance	4.91 (0.29)	Acceptance	5.00 (0.00)
SEF_4	18 (86)	Pros/cons	22 (100)	info PM	22 (100)	Evocation	4.91 (0.29)	Evocation	4.77 (0.53)
SEF_5	17 (81)	Alc and SI/SA	21 (95)	discuss PM	22 (100)				
SEF_6	17 (81)	BSCQ	22 (100)	info comm.	22 (100)				
SEF_7	18 (90)	Neg. aff. Alcohol	22 (100)	discuss comm.	22 (100)				
SEF_8	18 (86)	Alc. As risk	22 (100)						
SEF_9	18 (90)	Feedback	22 (100)						
SEF_10	13 (65)	ADH_D1	22 (100)						
SEF_11	18 (86)	ADH_E1	22 (100)						
SEF_12	19 (91)	Confid	22 (100)						
SEF_13	17 (85)	Future goals	22 (100)						
SEF_14	17 (85)	Summary	22 (100)						
SEF_15	19 (90)	Strategies	21 (95)						
SEF_16	17 (85)	ADH_G1	22 (100)						
SEF_17	20 (95)	Change plan	22 (100)						
SEF_18	21 (100)	Set a goal	22 (100)						
SEF_19	21 (100)	Steps	22 (100)						
SEF_20	19 (91)	Others support	21 (100)						
SEF_21	19 (95)	Identify change	22 (100)						
SEF_22	20 (100)	Barriers	22 (100)						
		Self-efficacy	22 (100)						
		Summarize goals	17 (77)						
		Major elements	13 (59)						
		Concerns	14 (64)						

Results: App Acceptability

Kids			Parents	
	n (%)			n (%)
Full view	11 (65)		Full view	7 (54)
Easy to locate	3.47 (1.62)		Easy to locate	2.07 (1.77)
Relevant	3.62 (1.32)		Relevant	3.56 (1.62)
Reading level	3.52 (0.75)		Reading level	3.13 (0.35)
Length is good	2.88 (0.60)		Length is good	2.54 (0.88)
Frequency is good	2.35 (1.06)		Frequency is good	2.00 (1.15)
Quantity is good	2.53 (1.07)		Quantity is good	2.36 (1.39)
Length of service is good	3.00 (0.84)		Length of service is good	2.76 (1.25)
Helpful	2.62 (1.02)		Helpful	2.94 (1.70)
Other teens use?	10 (48)		Other teens use?	15 (78)
How easy to use?	4.33 (1.06)		How easy to use?	3.42 (1.70)
Use wherever	20 (95)		Use wherever	17 (89)