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Original article

Adolescent Alcohol Use, Suicidal Ideation, and Suicide Attempts

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Abstract

Purpose: To examine the association between self-reported alcohol use and suicide attempts among adolescents who did and did not report suicidal ideation during the past year.

Methods: Screening data from 31,953 students attending schools in the United States that implemented the Signs of Suicide (SOS) program in 2001–2002 were used in this analysis. Two types of alcohol use were investigated: heavy episodic drinking, and drinking while down. Self-reported suicide attempts were regressed on suicidal ideation and both measures of alcohol use, controlling for participants' levels of depressive symptoms, and demographic characteristics.

Results: Logistic regression analyses indicated that both drinking while down and heavy episodic drinking were significantly associated with self-reported suicide attempts. Analyses examining the conditional association of alcohol use and suicidal ideation with self-reported suicide attempts revealed that drinking while down was associated with significantly greater risk of suicide attempt among those not reporting suicidal ideation in the past year. Heavy episodic drinking was associated with increased risk of suicide attempt equally among those who did and did not report suicidal ideation.

Conclusions: This study identified the use of alcohol while sad or depressed as a marker for suicidal behavior in adolescents who did not report ideating prior to an attempt, and hence, may not be detected by current strategies for assessing suicide risk. Findings from this study should provide further impetus for alcohol screening among clinicians beyond that motivated by concerns about alcohol and substance use.

Keywords: Suicide; Suicide attempts; Alcohol; Adolescent; Ideation; Sad; Blue; Down; Binge; Heavy Episodic drinking; Drinking

Suicide among adolescents and young adults is a pressing public health problem. Suicide is the third leading cause of death for young persons aged 10 to 24 years in the United States [1]. Approximately one-third of adolescents report having experienced suicidal ideation at some time in their life, and suicide attempts are made by about 1 in 10 [2]. Recent data collected by the Centers for Disease Control and Prevention have revealed a dramatic spike in suicide rates among older adolescents in 2004 following years of declines [3].

One important characteristic of attempted and completed suicide is the extent to which the act was planned. Unplanned, or impulsive, acts of suicide involve ''little preparation or premeditation'' [4]. Although estimates of impulsive suicides differ greatly, likely because of varying definitions of impulsivity [5], they constitute a substantial proportion of suicides. Several studies provide prevalence estimates exceeding 50% among both adults [5,6], and adolescents [7]. In a study of 100 patients who made a severe suicide attempt, 84% reported no specific plan, and 69% reported no specific plan and had only fleeting thoughts of suicide or no suicidal ideation at all prior to their attempt [8]. Other studies identified one-quarter [5] and two-fifths [6] of hospitalized self-injured patients who attempted suicide with less than 5 minutes of premeditation. Recent research has found a trend of

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increasing prevalence of suicide attempts among adolescents in conjunction with decreasing prevalence of suicidal ideation and planning [9], suggesting that the prevalence of attempts in the absence of ideation may be increasing.

Planned and unplanned suicides and suicide attempts differ in important ways. Planned attempts have generally been associated with higher levels of depression, hopelessness, lethality, and better follow-through on treatment following the attempt [4]. Unplanned attempts are more prevalent in early as opposed to late adolescence [10] and are more common among males and those higher in aggressiveness [5]. In addition, impulsive suicidal behavior among adolescents may be more likely to occur following stressful life events [4,7]. Because they may be less visibly depressed, those at risk for unplanned acts are less easily identifiable as at risk prior to their attempts, potentially thwarting prevention efforts focused on identifying individuals exhibiting the signs and symptoms of suicidal behavior [11].

One key differentiating factor in planned and unplanned suicide attempts may be alcohol use. Alcohol use is strongly associated with suicide among adolescents [10], and adolescent alcohol abuse has been blamed for the increase in suicides among young persons from 1956 to 1994 [12]. From a theoretical perspective, alcohol intoxication may play a particularly important role in unplanned suicides because of: (a) increased disinhibition and impulsivity, (b) increased aggression and negative affectivity, and (c) increased cognitive constriction (''alcohol myopia'') that limits the production of alternative coping strategies [13,14]. For youths higher in aggression and impulsivity, such as those with attention deficit hyperactivity disorder and other disruptive behavior disorders, research suggests that alcohol may directly or indirectly increase the risk of suicide [15,16]. Although provocative, much of this evidence is inferential, with little empirical research investigating the association between drinking and unplanned suicidal behavior.

The current study investigated the association between alcohol use and impulsive suicide attempts. Based on literature reviewed above, we expected that alcohol use would play a greater role in impulsive compared to nonimpulsive attempts after taking into account youths' depressive symptoms and demographic characteristics. Two measures of problematic alcohol use were included in our analyses: self-reported heavy episodic or ''binge'' drinking, and drinking while feeling down. Binge drinking has been linked to suicide attempts in young people [17] and adolescents who drink to cope with negative emotional states are more likely to drink heavily and to be problem drinkers [18].

Methods

Participants

Data for this study were collected from students (n = 33,889) participating in the Signs of Suicide (SOS) program during the 2001–2002 school year. SOS is a school-based prevention program developed by Screening for Mental Health, Inc., a nonprofit organization in Wellesley, Massachusetts. SOS incorporates two prominent suicide prevention strategies into a single program, combining a curriculum that aims to raise awareness of suicide and its related issues with a brief screening for depression and other risk factors associated with suicidal behavior [11]. Data for the present study consisted of screening forms from students attending 225 of the 594 schools in the United States implementing the program during the 2001–2002 school year. Table 1 presents demographic characteristics of this sample relative to national data [19–21].

Because this study involved a secondary analysis of anonymous data collected as part of the SOS program, it was declared exempt from human subjects' approval by the

Table 1
Demographic profile and prevalence of risk behaviors of the sample (N = 31,953)

	Sample distribution	National distribution
Race/ethnicity %[a]		
White (non-Hispanic)	71.1	69.3
Black (non-Hispanic)	11.9	14.9
Hispanic	10.0	14.9
Asian	2.0	4.3
Indian	1.3	0.2
Multiracial	3.7	3.6
Other	0.0	6.7
	100%	100%
Gender %[a]		
Male	48.3	50.9
Female	51.7	49.1
Age %[a]		
13 and under	2.8	1.6
14	21.5	18.2
15	30.4	23.8
16	22.0	24.3
17	15.8	22.3
18 and over	7.6	9.9
	100%	100%
Grade[d]		
7	1.3	—
8	2.4	—
9	40.8	29.5
10	25.6	26.0
11	15.9	23.4
12	14.0	21.1
Mean depressive symptoms (SD)	9.0 (5.2)	—
Heavy episodic drinking, % past year [b]	29.2	—
Heavy episodic drinking, % past 30 days[b]	—	28.3
Drinking while down, % past year	12.2	—
Suicide attempts, % past year [c]	4.9	8.5
Suicidal ideation, % past year [c]	16.6	16.9

Note: National distributions for race, gender, and age are from the population of U.S. students in grades 9–12. Sources:

[a] U.S. Census Bureau [20].

[b] 2003 Youth Risk Behavior Survey statistics [21]. Rate of heavy episodic drinking nationally is measured as prevalence over the past 30 days.

[c] 2003 Youth Risk Behavior Survey statistics [21].

[d] 2001–2002 Center for Education Statistics [40].