

Suicidal ideation, plans, and attempts and the use of psychoactive substances by adolescents

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Abstract

Introduction: Suicidal behavior and substance abuse constitute a serious public health problem.

Aim: The study was to analyze the relationships between suicidal behaviors (ideation, plans, attempts) and substance abuse in adolescents. The authors also took into account the respondents' motivation to attempt suicide and use psychoactive substances, as well as some demographic variables.

Participants: The study involved 3493 secondary school students aged 16-17 years. The group included 69.41% girls and 30.59% boys.

Methods: The participants were surveyed with a self-report questionnaire designed by one of the authors.

Results: Statistically significant relationships were found between the respondents' suicidal behaviors and the risky use of alcohol, cannabis, amphetamine, and designer drugs.

Conclusions:

1. The use of psychoactive substances increases the risk of suicidal ideation and plans, as well as suicidal attempts in adolescents and young adults.
2. Significantly more respondents who report suicidal ideation, plans and attempts, in comparison to those who do not report such thoughts and behaviours, abuse alcohol and consumer cannabis, amphetamine and designer drugs to cope with problems and lower self-confidence.
3. In the group of respondents who report suicidal behaviour, psychoactive substances are consumed by significantly more men than women and by significantly more city inhabitants than people living in the country.
4. Young people, who report suicidal thoughts, plans, and attempts, are initiated into alcohol consumption at an earlier age than their non-suicidal peers.

Keywords: suicidal behavior, psychoactive substances, adolescents

Streszczenie

Wstęp: Zachowania samobójcze i nadużywanie substancji odurzających stanowią poważny problem zdrowia publicznego.

Cel: Badanie miało na celu analizę związków między zachowaniami samobójczymi (wyobrażenia, plany, próby) a nadużywaniem substancji psychoaktywnych u młodzieży. Autorzy wzięli również pod uwagę motywację respondentów do podejmowania prób samobójczych i używania substancji psychoaktywnych, a także niektóre zmienne demograficzne.

Grupa badana: Badaniami objęto 3493 uczniów szkół średnich w wieku 16-17 lat. W grupie było 69,41% dziewcząt i 30,59% chłopców.

Metody: Uczestnicy zostali przebadani za pomocą opracowanego przez jedną z autorek kwestionariusza samoopisowego.

Wyniki: Stwierdzono statystycznie istotne zależności między zachowaniami samobójczymi respondentów a ryzykownym używaniem alkoholu, konopi, amfetaminy i dopalaczy.

Wnioski:

1. Stosowanie środków psychoaktywnych zwiększa ryzyko występowania myśli i planów samobójczych oraz prób samobójczych podejmowanych przez młodzież i młodych dorosłych.

2. Istotnie więcej badanych osób informujących o myślach, planach i próbach samobójczych niż nieinformujących o zachowaniach samobójczych upija się oraz stosuje marihuanę, amfetaminę i dopalacze w celu poradzenia sobie z problemami i dodania sobie odwagi.
3. W grupie osób zgłaszających zachowania samobójcze środki psychoaktywne stosuje istotnie więcej mężczyzn niż kobiet, znacząco więcej osób mieszkających w mieście niż na wsi.
4. Osoby zgłaszające zachowania samobójcze, w porównaniu do osób niezgłaszających takich zachowań, mają młodszy wiek inicjacji alkoholowej.

Słowa kluczowe: zachowania samobójcze, substancje psychoaktywne, młodzież

Introduction

Suicidal behavior (suicidal ideation, plans, and suicide attempts) and substance abuse constitute a serious public health problem [1,2]. Bridge et al. stress that the risk of suicide increases in adolescents who use or are addicted to psychoactive substances [2]. Numerous studies provide data on an increasing prevalence of both suicide attempts and drinking and drug abuse in the population of adolescents [1,3,4,5,6,7,8,9,10]. Consumption of alcohol and use of drugs by minors have been found to be predictors of suicide attempts. Chronic intoxication is considered one of the causes of suicidal behavior [5]. Spirito et al. report that from 27% to 50% of young suicide attempters use some kind of psychoactive substance, from 13% to 25% use drugs, and from 22% to 27% abuse alcohol [4]. Young people believe that alcohol can bolster their courage to carry out a suicide attempt and they drink to cope with stress. Gauthier et al. are of the opinion that alcohol abuse is a risk factor in suicidal ideation [11], while Epstein and Spirito [12] and Glasheen et al. [13] demonstrate that alcohol abuse by adolescents correlates not only with suicidal thoughts, but also with suicide plans and attempts.

Marschall-Lévesque et al., based on a study of adolescents aged 13-15 years, have found significant relationships between alcohol abuse and suicidal thoughts [14]. Wichstrøm [15] and Kelly et al. [16] count alcohol abuse among factors that predispose young people, boys and girls alike, to suicide. According to Wu et al., young people who report suicidal ideation and suicide attempts are more likely to get intoxicated with alcohol and use drugs than their non-suicidal peers [17].

Another predictor of suicidal ideation is early alcohol initiation (before the 13th birthday) [18]. According to Swahn et al., early initiation into alcohol use (before the age of thirteen) correlates not only with suicidal ideation but also with suicide attempts in adolescents [19]. Similar results have been obtained by Kim and Kim, who have determined that early initiation into drinking and smoking increases the risk of suicidal thoughts and suicide attempts both in girls and in boys [20]. Similarly, Peltzer and Pengpid point out that in adolescents aged 13-16

years, suicidal ideation precedes the use of psychoactive substances. In their study, adolescents who consumed alcohol and smoked cigarettes were more likely to report suicidal ideation [21]. In a study on 1071 adolescents, Darvishi et al. have found that there are significant correlations between alcohol consumption before the age of 15 and attempted suicide [9].

Rasic et al. report that young people who used drugs at the age of 15, were more than twice as likely as controls to report suicidal ideation at the age of 17. The results suggest that the use of alcohol and drugs may reinforce suicidal behaviors, probably due to the disinhibiting effect of these substances or in connection with a lack of problem solving and stress coping skills [22].

Wu et al. point out that people who attempted to take their life are significantly more likely to have taken drugs than adolescents who only report having had suicidal thoughts [17]. Nock et al. [23] and Borges et al. [24] believe that young people who report suicidal ideation and suicide attempts are significantly more likely to abuse alcohol and drugs than individuals who do not engage in such behaviors. According to many authors [25,26,27,28], suicidal behavior (thoughts, plans, and attempts) is closely related to the use of psychoactive agents, including cannabinoids. Delforterie et al. [29] and Chabrol et al. [25] have found significant correlations between the use of cannabinoids and reports on suicidal ideation in adolescents. Agrawal et al. [30] have found in their study of young people aged 12-22 years that suicidal ideation correlates with alcohol, nicotine and cannabis abuse, while suicide attempts with the abuse of alcohol and nicotine and cannabis addiction.

Similar results have been obtained by other researchers who draw attention to an increased risk of suicidal behaviors in cannabis users [22,25,26,27,28,29]. Nock et al. associate suicidal ideation [23,31,32], while Borges et al. [6,7,24] and Shalit et al. [10] – suicide attempts, with the use of alcohol, nicotine, and cannabis.

Arenliu et al. have studied the relationship between substance abuse and suicidal behaviors in young people in relation to gender. They found that suicidal ideation in adolescents aged 14-18 years correlated with alcohol

consumption and cannabis use. At the same time, they established that there were significant relationships between the use of cannabis, amphetamine, hallucinogens, and ecstasy and suicidal thoughts in men, while the use of tranquilizers significantly correlated with suicidal ideation in women. The findings of Arenliu et al. point to the existence of statistically significant positive correlations between the use of alcohol, cannabinoids, and tranquilizers and suicide attempts in both men and women. Those authors also stressed that suicide attempters were more likely to report the use of alcohol than their non-suicidal peers. The simultaneous use of three drugs correlated with suicidal thoughts in men, but not in women [33].

Ferrari et al. believe that dependence on opioids and amphetamine is also a risk factor for suicidal attempts [8]. Guvendeger Doksat et al. report that the prevalence of suicide attempts among substance-abusing adolescents is from 21% to 52%. In a study on a group of Turkish adolescents who had made suicide attempts, 27.8% used alcohol, 28.5% ecstasy, 24% cannabinoids, 25% synthetic cannabinoids, 31% benzodiazepine, 43% cocaine, 25% heroin, and 23% inhalants. Cannabinols and cocaine were important risk factors in suicide attempts, while the simultaneous use of several psychoactive substances was associated with both suicide attempts and self-mutilation [34]. According to Shoval et al., the use of LSD and alcohol is significantly correlated with suicide attempts made by adolescents. Those authors point out that women are more likely to attempt suicide than men. In their study, suicidal ideation in women was associated with mild alcohol dependence, while suicide attempts were connected with severe alcohol dependence combined with drug abuse [35].

The aim of the present study was to analyze the relationships between suicidal behaviors (ideation, plans, attempts) and substance abuse in adolescents. The authors also took into account the respondents' motivation to attempt suicide and use psychoactive substances, as well as some demographic variables.

Methods

Participants

The study involved 3493 secondary school students aged 16-17 years; the mean age of the participants was 16.74, SD=0.44 years. The study group included 69.41% girls and 30.59% boys; 44.37% of the study group lived in a city, while 55.63% lived in rural areas.

Procedures

The participants were surveyed using a self-report questionnaire designed by one of the authors of the present study; the questionnaire included the following

variables: gender, age, place of residence, educational level, use of drugs, use of designer drugs, alcohol abuse (risky use of alcohol), age of alcohol use initiation, suicidal thoughts and plans and suicide attempts, and motivation to use psychoactive substances.

The survey was conducted in schools whose headmasters/headmistresses had given their consent to the study. An effort was made to survey the largest possible group of students. As the participation in the survey was entirely voluntary, not all of the students completed their answer sheets. All the students willing to participate, filled in questionnaires during their lessons at school. The anonymity of the respondents and the confidentiality of data were secured.

Ethical issues

The study was approved by the Ethics Committee of the Medical University of Lublin, Poland (KE-0254/94/2012) and accepted by the Department of Education at the Lublin City Office, Lublin, Poland. On receiving the questionnaires, the respondents were informed that they were entitled to obtain professional help.

Statistical analysis

In order to compare the groups in terms of the selected sociodemographic variables described on a nominal dichotomous scale, the nonparametric chi-square test (χ^2) was used. Variables described on an interval scale (age of alcohol initiation) were compared using the t-test. Relationships between dichotomous variables (occurrence of suicidal behaviors and motivation to use psychoactive substances) were determined by calculating Yule's phi correlation coefficients. The p value of 0.05 was considered as statistically significant. The database and statistical analyses were performed using STATISTICA 10.0. software.

Results

As a first step of statistical analysis, a χ^2 test was used to compare the numbers of participants who did and did not report suicidal behavior in relation to the use of psychoactive agents. The data was analyzed by gender (Table 1).

The results show that significantly more adolescents who report suicidal ideation and attempts abuses alcohol, smokes cannabis, and takes amphetamine and designer drugs than their peers who do not report such thoughts and behaviors. Analogous differences were found in the whole study group and in girls. Significantly more boys who report suicidal ideation and attempts abuses alcohol, takes amphetamine, and smokes cannabis than boys who do not report such thoughts and behaviors.

An analysis of the questionnaires completed by

Table 1. Number of young substance abusers reporting suicidal behaviors (ideation, plans, attempts)

Variables	Gender	Suicidal ideation			Suicidal plans			Suicide attempts		
		NO	YES	χ^2	NO	YES	χ^2	NO	YES	χ^2
		N (%)	N (%)		N (%)	N (%)		N (%)	N (%)	
Alcohol	Entire group	987 (37.49)	444 (55.43)	81.37***	1139 (38.91)	288 (57.95)	63.33***	1337 (40.63)	89 (63.57)	29.11***
	Females	484 (30.77)	314 (53.77)	96.64***	594 (33.13)	204 (56.51)	70.44***	737 (35.76)	61 (60.40)	25.96***
	Males	387 (47.43)	87 (62.14)	10.35**	417 (48.04)	52 (64.20)	7.74**	455 (48.92)	14 (73.68)	4.57*
Cannabis	Entire group	288 (15.11)	193 (30.11)	70.45***	348 (16.25)	131 (32.91)	60.94***	430 (17.69)	49 (43.36)	46.57***
	Females	118 (10.42)	128 (27.41)	73.27***	160 (12.22)	86 (29.76)	55.89***	212 (13.96)	35 (42.68)	49.20***
	Males	134 (22.83)	43 (38.05)	11.63***	147 (23.30)	28 (44.44)	13.59***	170 (24.93)	4 (30.77)	0.23
Amphetamine	Entire group	28 (1.47)	34 (5.30)	29.70***	38 (1.77)	24 (6.03)	25.53***	49 (2.02)	13 (11.50)	40.89***
	Females	12 (1.06)	18 (3.85)	14.02***	17 (1.30)	13 (4.50)	13.16***	23 (1.51)	7 (8.54)	20.87***
	Males	10 (1.70)	9 (7.96)	14.08***	12 (1.90)	7 (11.11)	18.24***	17 (2.49)	2 (15.38)	7.97**
LSD	Entire group	22 (1.15)	12 (1.87)	1.88	26 (1.21)	8 (2.01)	1.61	31 (1.28)	3 (2.65)	1.56
	Females	7 (0.62)	6 (1.28)	1.82	10 (0.84)	3 (0.78)	0.01	13 (0.86)	0 (0.00)	0.71
	Males	13 (2.21)	3 (2.65)	0.08	13 (2.06)	3 (4.76)	1.86	15 (2.20)	1 (7.69)	1.71
Designer drugs	Entire group	33 (1.37)	22 (3.43)	6.58**	39 (1.82)	16 (4.02)	7.67**	47 (1.93)	7 (6.19)	9.45**
	Females	14 (1.24)	16 (3.42)	8.61**	19 (1.45)	11 (3.81)	7.13**	24 (1.58)	5 (6.10)	8.93**
	Males	17 (2.89)	5 (4.42)	0.73	18 (2.85)	4 (6.35)	2.29	21 (3.07)	1 (7.69)	0.89

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

adolescents who report suicidal thoughts showed that ca. 55% of this group abuse alcohol, ca. 30% smoke cannabis, ca. 6% take amphetamine, ca. 2% LSD, and ca. 4% designer drugs. In the group of adolescents admitting to suicide plans, ca. 58% abuse alcohol, ca. 33% smoke cannabis, ca. 6% take amphetamine, 2% LSD, and 4% designer drugs. The majority of suicide attempters use psychoactive substances: ca. 64% abuse alcohol, ca. 43% smoke cannabis, ca. 11% take amphetamine, ca. 2% LSD, and ca. 6% designer drugs.

Table 2. shows the results of the χ^2 test which was used to compare the numbers of female and male adolescents reporting suicidal behaviors in relation to substance abuse.

Cannabis was consumed by significantly more

males than females reporting suicide thoughts and plans. Amphetamine was taken by significantly more males than females who reported suicide plans. The largest groups of both female and male adolescents reporting suicidal ideation and attempts admit to cannabis consumption and risky use of alcohol. In the group of respondents with suicidal behavior, ca. 54-60% young women and ca. 62-73% young men abuse alcohol, while ca. 27-41% young women and ca. 38-44% young men consume cannabis.

Table 3. shows the results of Student's t-test comparing the age of alcohol initiation between adolescents who report suicidal behavior and those who do not report such behavior.

Adolescents reporting suicidal ideation and attempts start consuming alcohol at an earlier age than young

Table 2. Comparison of the numbers of female and male adolescents who used psychoactive substances and reported suicidal behaviors

Variables	Suicidal ideation			Suicidal plans			Suicide attempts		
	Females	Males	χ^2	Females	Males	χ^2	Females	Males	χ^2
	N (%)	N (%)		N (%)	N (%)		N (%)	N (%)	
Alcohol	314 (53.77)	87 (62.14)	3.21	204 (57.90)	52 (64.86)	1.60	61 (60.40)	14 (73.68)	1.20
Cannabis	128 (27.41)	43 (38.05)	4.96*	86 (29.76)	28 (44.44)	5.10*	35 (41.68)	4 (30.77)	0.25
Amphetamine	18 (3.85)	9 (7.96)	3.46	13 (4.50)	7 (11.11)	4.22*	7 (7.05)	2 (12.50)	0.07
LSD	6 (1.28)	3 (2.65)	0.40	3 (1.04)	3 (4.76)	2.34	0 (0.00)	1 (7.69)	1.13
Designer drugs	16 (3.42)	5 (4.42)	0.26	11 (3.81)	4 (6.35)	0.32	5 (6.10)	1 (7.69)	0.16

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

Table 3. A comparison of the age of alcohol initiation between suicidal and non-suicidal young people

Gender	Variables	Suicidal ideation			Suicidal plans			Suicide attempts		
		NO	YES	t	NO	YES	t	NO	YES	t
		M (SD)	M (SD)		M (SD)	M (SD)		M (SD)	M (SD)	
Entire group	Age of alcohol initiation	14.50 (1.45)	14.18 (1.56)	4.61***	14.49 (1.45)	14.10 (1.60)	4.61***	14.44 (1.47)	13.98 (1.58)	3.08**
Females	Age of alcohol initiation	14.57 (1.35)	14.03 (1.48)	3.20***	14.61 (1.36)	14.21 (1.54)	4.24***	14.57 (1.39)	14.03 (1.52)	3.20***
Males	Age of alcohol initiation	14.23 (1.60)	13.79 (1.71)	2.50**	14.25 (1.60)	13.45 (1.66)	3.66***	14.17 (1.61)	13.71 (1.49)	1.05

* $p<0.05$; ** $p<0.01$; *** $p<0.001$

people who do not show suicidal behavior.

The relationships between the variables mentioned above and suicidal behavior were determined by calculating Yule's phi coefficients of correlation (Table 4).

Significant relationships were found between suicidal thoughts in the studied adolescents and their motivation to use psychoactive substances: to escape from problems and bolster self-confidence. There are also statistically significant relationships between suicidal tendencies and attempts and the motivation to use psychoactive substances to escape from problems. Those relationships occur in both females and males. In the male group, positive correlations were found between suicide plans and the motivation to use psychoactive substances to bolster self-confidence.

Discussion

The results of statistical analysis show that adolescents who report suicidal ideation, plans, and suicide attempts are significantly more likely than their non-suicidal peers to abuse alcohol and take the following

types of drugs: marijuana, amphetamine, and designer drugs. In the group of adolescents with suicidal ideation, ca. 55% abuse alcohol, ca. 30% smoke cannabis, ca. 5% take amphetamine, ca. 2% LSD, and ca. 3% designer drugs. Among the respondents reporting suicidal plans, ca. 58% abuse alcohol, ca. 33% smoke cannabis, ca. 6% take amphetamine, 2% LSD, and 4% designer drugs. In the group of respondents who attempted suicide, the proportion of psychoactive substances consumers is the greatest: ca. 64% abuse alcohol, ca. 43% smoke cannabis, ca. 11% take amphetamine, ca. 2% LSD, and ca. 6% designer drugs. Risky alcohol consumption in the studied group of 16-17 year olds with suicidal attempts is more widespread than it was found by Spirito et al. [4] and Guvendeger Doksata et al. [34].

The results obtained in the present study are consistent with the findings of other researchers [1-10] who draw attention to the significant relationships between suicidal behaviors in adolescents and young adults and the use of psychoactive substances. Spirito et al. [4] and Hufford [5] have found that suicide attempts co-

Table 4. Correlations between various types of motivation to use psychoactive substances and suicidal behavior (ideation, plans, attempts)

Motivation to use psychoactive drugs	Suicidal ideation	Suicidal plans	Suicide attempts
	Entire group		
I take drugs because I like to	0.04	0.029	0.03
I take drugs for company	-0.05	-0.05	-0.04
I take drugs to escape from problems	0.20***	0.16***	0.13***
I take drugs to bolster self-confidence	0.10**	0.07	0.01
	Females		
I take drugs because I like to	0.08	0.06	0.06
I take drugs for company	-0.04	-0.04	-0.05
I take drugs to escape from problems	0.22***	0.16***	0.13***
I take drugs to bolster self-confidence	0.10*	0.08	0.02
	Males		
I take drugs because I like to	-0.02	-0.02	-0.04
I take drugs for company	-0.01	-0.04	-0.02
I take drugs to escape from problems	0.13***	0.10*	0.13***
I take drugs to bolster self-confidence	0.09*	0.10*	0.04

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

occur with substance abuse. Miller et al. emphasize that people who abuse alcohol and use drugs are more likely to report suicidal thoughts and plans than those who do not use psychoactive substances [36]. The relationship is so strong that the use of alcohol and drugs is considered predictor of suicide attempts by minors [33]. In a study of a cohort of 13-16 year olds, Peltzer and Pengpid have found that suicidal ideation precedes the use of psychoactive substances [21].

In a study by Im et al., adolescents who consumed alcohol were more likely to report suicidal ideation than those who did not drink [37]. Young people believe that alcohol can bolster their courage to carry out a suicide attempt; they also treat it as means of coping with stress [3] and negative emotions [14,22]. The results obtained in the present study, which point to significant positive correlations between suicidal behaviors and the use of psychoactive substances motivated by the desire to 'escape from problems' and 'bolster self-confidence,' confirm Spirito's opinion [4]. According to Wojtyła-Buciora et al., adolescents who use psychoactive substances are guided by curiosity and the wish to cope with life's difficulties, forget about problems, or fit in with their social group [38].

The results of statistical analysis indicate that both girls and boys who report suicidal ideation, plans, and attempts start drinking at a younger age than adolescents who do not show such behaviors. These results are consistent with the findings of Swahn et al. [19] and Kim and Kim [20] who emphasize that early alcohol initiation is associated with suicide attempts by young people. The initiation into alcohol use before the age of thirteen

is considered a predictor of suicidal ideation [18], while the initiation before the age of fifteen is a risk factor in attempted suicide [4,9].

The results obtained in the present study are consistent with the opinion of the authors who draw attention to the role of cannabinoids in the development of suicidal thoughts and plans and suicide attempts by young people [26,27,33]. According to Nock et al. [31], suicidal ideation – and according to Borges et al. [6,7] – suicide attempts, are associated with the use of alcohol, nicotine, and cannabinoids. Some longitudinal studies have shown an increased risk of suicide plans and attempts in cannabis users [28,29,30].

In the opinion of Arenliu et al., the use of amphetamine, cannabinoids, and hallucinogens is associated with suicidal thoughts [33], while Ferrari et al. draw attention to the role of amphetamine use in suicide attempts [8].

These results correspond to the opinion of the authors [3,38] who stress that simultaneous use of several psychoactive substances plays an important role in suicide attempts by children and adolescents.

In addition, the results obtained in the present study show that significantly more males than females, who report suicidal thoughts and plans, use psychoactive drugs, cannabinoids and amphetamine. A nationwide study conducted among Polish school-age children and adolescents regarding the use of psychoactive substances has shown that these substances are used by more boys than girls [39]. Arenliu et al. have demonstrated, in a study on a cohort of 14-18 year olds, that the use of cannabinoids, amphetamines and hallucinogens is significantly

associated with suicidal thoughts only in the group of men [33].

The results presented above have not only theoretical relevance but are also of practical interest. Attention to the practical aspect of this type of studies has been drawn by Chan et al. [40] and Miller et al. [36]. Chan et al., who conducted tests among 6786 Malaysian adolescents aged 17-18 years, came to the conclusion that, in the face of an increasing number of young people attempting suicide, more comprehensive preventive measures ought to be introduced, which should also address the consequences of substance abuse [40]. Miller et al., based on the results of a study conducted in a group of 3005 adolescents aged 12-17 years, have concluded that efforts to reduce the use and abuse of alcohol and drugs may reduce the risk of ensuing suicidal behavior among adolescents [36].

Limitations

The study was conducted among adolescents who attend schools in the Podkarpackie and Lubelskie provinces (voivodships) of southeastern Poland. The group of female respondents was larger than that of male ones because girls more willingly consented to the participation in the study than boys. This may have affected the results and seems a serious limitation as the majority of literature data show that both the abuse of psychoactive substances and suicide attempts are more frequent among males.

The incomplete questionnaires were excluded from the study.

Conclusions

1. The use of psychoactive substances increases the risk of suicidal ideation and plans, as well as suicidal attempts in adolescents and young adults.
2. Significantly more respondents who report suicidal ideation, plans and attempts, in comparison to those who do not report such thoughts and behaviours, abuse alcohol and consumer cannabis, amphetamine and designer drugs to cope with problems and bolster self-confidence.
3. In the group of respondents who report suicidal behaviour, psychoactive substances are consumed by significantly more men than women and by significantly more city inhabitants than people living in the country.
4. Young people who report suicidal thoughts, plans, and attempts are initiated into alcohol consumption at an earlier age than their non-suicidal peers.

Conflict of interest

The authors have declared no conflict of interest.

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