

Retrospective Study of Relationship Between Alcohol Use and Risk of Suicide Attempt

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Submitted: 19 Nov 2017; **Accepted:** 25 Nov 2017; **Published:** 02 Dec 2017**Abstract****Background:** It is important to investigate the relationship between alcohol use and risk of suicide attempt which has important implications for management and prevention of further suicidal behavior.**Methods:** One year's worth of data (June 2014 to May 2015) was obtained retrospectively from case records of patients who had attempted suicide.**Results:** In the year sampled, there were 1600 attempted suicide cases, of which 809 were referred to a psychiatrist for a risk-factor evaluation. Males were 397 (49.1%), out of which 147 patients were found to be using alcohol. Out of 147 patients 146 (99.3%) suicide attempt were linked to alcohol use. Those who age <30 years were 83(56.5%) and age >30 years were 64 (43.5%). 60 (40.8%) were using alcohol from less than 5 years, 43(29.3%) were using alcohol from 5-10 years, 44(29.9%) were using alcohol for more than 10 years. 120(81.6%) had dependence pattern of alcohol use, 109(74.1%) were under intoxication, where as 18(12.2%) were in withdrawal state at the time of suicide attempt, 105 (71.4%) were attempted suicide without their awareness. and 83(56.5%) were having alcohol induced depression.**Conclusion:** This study from the case records elucidates relationship between alcohol use and suicide attempt which will help further in suicide prevention.**Keywords:** Suicide Attempt, Alcohol, Prevention**Introduction**

Suicide is a major public health problem. Around 900,000 adults die by suicide every year [1]. Alcohol use is linked, to higher suicide rates and to with almost the entire spectrum of suicidal behavior including suicidal ideation, nonfatal suicide attempts, and death but these rates vary across cultures [2,3]. Postmortem studies worldwide show that alcohol use disorders (AUDs) including abuse or dependence are present in 16% to 61% of those who kill themselves [4,5]. Alcohol use disorders are the second most common Axis I psychiatric disorder among suicides worldwide [6]. Review of studies on the acute use of alcohol at the time of suicide concludes that an average of 37% (range 10% to 69%) of suicide decedents had been drinking at the time of death [7]. Acute alcohol intoxication itself may act as a trigger for suicidal thoughts and attempts [8]. Acute use of alcohol in larger quantities leading to intoxication confers greater risk for suicide attempt than regular patterns of alcohol use [9]. Alcohol may influence the potential lethality of the method of suicide attempt. The positive relationship between alcohol use and increased lethality of attempts has also been reported among adolescents [10]. Among people with alcohol use disorders, additional risk factors include co

morbid major depression, stressful life events, poor social support, living alone, unemployment, and serious medical illness [11]. Hence it is important for clinicians to know the possible predictors of alcohol-related suicide attempts. With this background in this retrospective case record based study we have attempted to know the relationship between alcohol use and risk of suicide attempt.

Materials and methods**Source of data**

Detail information were collected from case records of patients who were admitted with suicide attempt between June 2014 to May 2015. All of the suicide attempters admitted to the hospital were referred for psychiatrist evaluation. Regularly these patients were interviewed for alcohol use disorder, because use of alcohol is a major risk factor for suicide. Relationship between different types of alcohol use like alcohol abuse, alcohol dependence, alcohol intoxication, alcohol withdrawal with suicide attempt or alcohol induced depression were noted as per International Classification of Disease -10 (ICD-10) criteria in case records. Case records were included in this analysis of such patients who had received a psychiatrist evaluation. Cases, of accidental poisoning, with incomplete case records, and patients who did not receive a referral to a psychiatry Department were excluded

from the study. Ethical approval for this study was obtained from the Institutional Ethical Committee.

Objective

To study the relationship between alcohol use and suicide attempts along with the study of different patterns of alcohol use

Results

In the specified duration, there were 1600 attempted suicide cases, of which 809 were referred to a psychiatrist for a risk-factor evaluation. Males were 397 (49.1%), out of which 147 (37.02%) patients were found to be using alcohol. And none of the female patients were found using alcohol. Those whose age was <30 years were 83(56.5%) and age >30 years were 64 (43.5%). There was no formal education for 9(6.1%), and education up to 10th standard were 138 (93.9%), considering their occupation 7(4.8%) were unemployed, 125 (85%)

were unskilled workers and 15(10.2%) were skilled workers. When method of suicide studied 22(15%) were used mildly harmful method like few tablet consumption, 25(17%) were used moderate harmful like (i.e. cypermethrin, commonly used to avoid insects, rat poisoning, etc.), and severely harmful methods like hanging, organophosphate and drowning in 100 (68%) of cases. Out of 147 patients who were using alcohol, 146 (99.3%) suicide attempt were linked related to alcohol use. When duration of alcohol use was studied, 60(40.8%) were using alcohol from less than 5years, 43(29.3%) were using alcohol from 5-10 years, 44(29.9%) were using alcohol for more than 10 years. 120(81.6%) had dependence pattern of alcohol use, 109(74.1%) were under intoxication, where as 18(12.2%) were in withdrawal state at the time of suicide attempt, 105(71.4%) were attempted suicide without their awareness. and 83(56.5%) were having alcohol induced depression. Details are shown in Table1 and Figure1- 2.

Table1. Descriptive statistics of relation between alcohol and suicide attempt.

Variables	Category	Number (n=147)	Percentage
Age	<30	83	43.5
	>30	64	56.5
Method	Mild harmful	22	15.0
	Moderate harmful	25	17.0
	Sever harmful	100	68.0
Related to alcohol	Not related	1	.7
	related	146	99.3
Duration of alcohol use	<5years	60	40.8
	5-10years	43	29.3
	>10years	44	29.9
Quantity of alcohol use	<90-180	17	11.6
	180-360	50	34.0
	>360	80	54.4
Dependence	Absent	27	18.4
	present	120	81.6
Under intoxication	Absent	38	25.9
	present	109	74.1
withdrawal	Absent	129	87.8
	present	18	12.2
Alcohol induced depression	Absent	64	43.5
	present	83	56.5
Aware about suicide attempt	Absent	105	71.4
	present	42	28.6

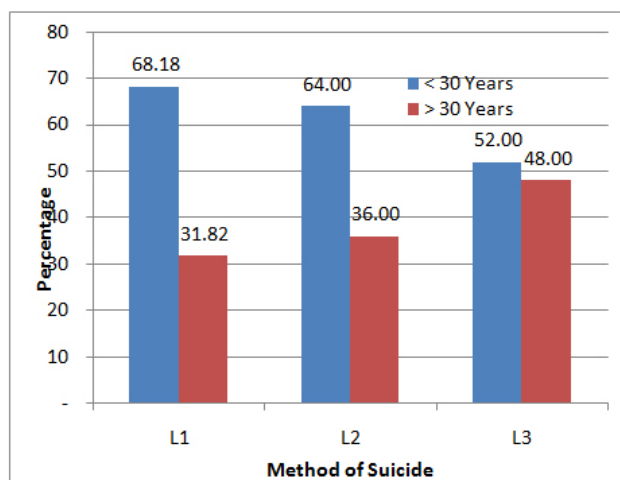


Figure 1: Percentage of different age groups and degree of severity of method of attempted suicide L1- Mild harmful, L2-Moderate harmful, L3-Severe harmful

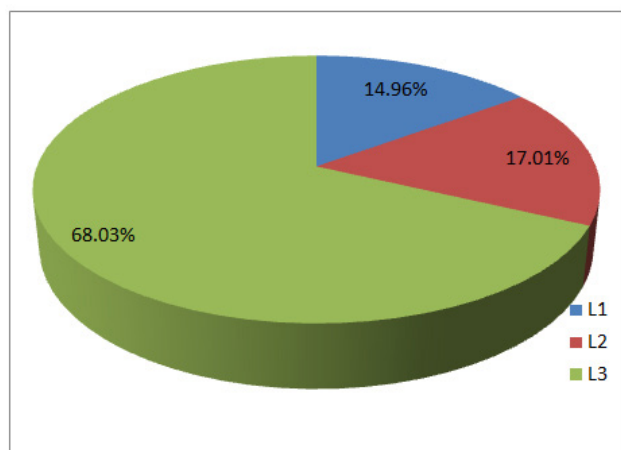


Figure 2: Percentage of suicide attempts by degree of harmfulness of method L1- Mild harmful, L2-Moderate harmful, L3-Severe harmful

Discussion

This is a retrospective study based on case record analysis of patients admitted with suicide attempt, in which we studied the relationship between alcohol use and risk of suicide attempt. We did not find any female alcohol user contrary to Western literature [12]. This difference can be explained by the fact that in Indian culture, alcoholism is a gendered phenomenon and is culturally taboo among females. In the sample out of 147 patients 146 (99.3%) suicide attempt were related to alcohol use. 120(81.6%) had dependence pattern of alcohol use. This finding is similar with the previous studies showed the lifetime prevalence of suicide attempts in patients with alcohol dependence is high [13]. About 40% of all patients seeking treatment for alcohol dependence report at least one suicide attempt at some point in their lives. It is found that age <30 years 83(56.5%), and 60 (40.8%) were using alcohol from less than 5years, showed higher incidence of suicide attempt. It shows that younger people even their duration of alcohol use <5years still they have higher risk of suicide attempt and significant risk of suicide among alcohol users especially in younger adults. 109(74.1%) were under alcohol intoxication at the time of suicide attempt, it is in contrast with the results of previous study where the frequency of suicide attempts under intoxication with alcohol in 1 year data was somewhat lower 21.08% [14]. In

this study method used for attempting suicide was severe harmful methods like hanging, organophosphate and drowning in 100 (68%) of cases. Previous studies, also documented increased frequency of violent methods those who attempted suicide under alcohol intoxication [15]. 105 (71.4%) were attempted suicide without their awareness. It shows that alcohol abuse may lead to suicidality through disinhibition, impulsiveness and impaired judgment. And 83(56.5%) were having alcohol induced depression. It may shows that increased suicide risk may be heralded by social withdrawal, breakdown of social bonds, and social marginalization, which are common outcomes of untreated alcohol abuse and dependence and may lead to alcohol induced depressions which will in turn increases the risk of suicide. Implies that people with alcohol dependence should be screened for depression and for suicidality.

Strengths of the study include a 1 year sample from previous case records, examined a range of socio demographic and clinical variables by psychiatrist in general hospital setting. However, the findings of the study must be interpreted in the context of its many limitations. This was a case record study from a single center and therefore carries some design limitations including possible recall bias.

Conclusions

This study elucidates important relationship between alcohol use and risk of suicide attempt from case record study. And programs for suicide prevention must take into account of drinking habits and should reinforce healthy behavioral patterns. Future work, preferably with longitudinal designs and community-based sampling, is required to clarify these associations further and identify the relationship between alcohol use and risk of suicide attempt.

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