

# To study prevalence of attempted suicide in patients with the diagnosis of alcohol dependence/abuse

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## Abstract

**Introduction:** Suicide or deliberate self-harm is a common public health problem in day-to-day psychiatric practice. **Aim:** To study prevalence of attempted suicide in patients with the diagnosis of alcohol dependence/abuse and to further explore the socio-demographic profile and clinical variables among the attempters and non-attempters. **Study design:** It was a hospital based cross sectional study done at tertiary care Institute where a total of 100 admitted cases of alcohol dependence/abusers as per DSM-IV TR were included. **Results:** The prevalence of suicidal attempt is common among males (91.2%) and among the alcoholics is 34%. Half of the alcoholic subjects belonged to 21–30 yrs of age group and majorly who attempted suicide also belonged to the same age group. Majority of the attempters were Hindus, self employed, belonged to rural areas, and nuclear family. Out of the 34 subjects who attempted suicide, 18 subjects had suicide attempt in the past. The stressor/ significant life event was present in 29.4% of the suicidal attempters whereas Family history of suicide was present in 38.2% of the alcoholics with suicidal attempt. Among the subjects who had attempted suicide, 44.1% had planned While 55.9 % had an impulsive unplanned attempt. 76.4% of the attempted suicide was by poisoning. All the subjects who had attempted suicide anytime during their life had a definite intent for suicide. Among the psychiatric morbidities, depression was commonest and others were personality disorder and anxiety disorders. **Conclusion:** In study we concluded that, majority of the alcoholics who attempted suicide were young males, self-employed, Hindus, and belonged to a nuclear family. Significant life event and family history were the predictors of suicidal attempt in alcoholics and also majority of attempts were impulsive. Poisoning was commonest method and major depressive disorder was commonest psychiatric diagnosis among suicide attempters.

**Keywords:** Alcohol, Deliberate Self Harm, Suicide.

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Received Date: 12/11/2015 Revised Date: 25/12/2015 Accepted Date: 02/01/2016

## Access this article online

Quick Response Code:



Website:  
[www.medpulse.in](http://www.medpulse.in)

DOI: 04 January  
2016

## INTRODUCTION

Suicide or deliberate self-harm (DSH) is public health problem. According to WHO reports, suicide is being classified among top 10 causes of death. Suicide contributes to 0.9% among all deaths.<sup>1,2</sup> Suicide rates are on rise globally. The WHO estimates that about one

million people commit suicide globally every year which corresponds to one death every 40 seconds. However, WHO figures doesn't include the suicidal attempts which is about 20 time more than the successful suicidal attempt and is estimated to be around 10 – 20 million per year.<sup>2</sup> Suicide is defined as death arising from an act inflicted upon one-self with the intent to kill one-self. Suicidal behaviour and suicidality can be conceptualized as a continuum ranging from suicidal ideation to suicide attempts and completed suicide. Attempted suicide is defined as potentially self-injurious action with a non-fatal outcome for which there is evidence, either explicit or implicit, that the individual intended to kill himself or herself.<sup>3</sup> Suicide is a result of complex interaction between the biological, psychological, social and situationalistic factors.<sup>4</sup> The reasons for suicidal attempts are multiple. Alcoholism has emerged as the frequent accompaniment among those who commit suicide

especially in young people.<sup>5</sup> The literature shows about 15% of the alcohol dependents commit suicide.<sup>6</sup> The suicide rate for alcoholics is estimated to be about 270 per 100,000 annually in United States and the literature available shows that between 7000 and 13000 alcohol dependent person commits suicide each year.<sup>7</sup> According to the literature, about 80 % of all alcohol-dependent suicide victims were males which largely reflect the sex ratio for alcohol dependence. Alcohol-dependent suicide victims tend to be white, middle-aged, unmarried, friendless, socially isolated, and currently drinking and about 40% had history of previous suicide attempt. 40 % of all suicides occur within a year of the patient's last hospitalization; older alcohol-dependent patients are at particular risk during the post discharge period.<sup>7</sup> Many alcohol-dependent patients who eventually commit suicide are rated depressed during hospitalization and that up to two thirds are assessed as having mood disorder symptoms during the period in which they commit suicide. About 50 percent of all alcohol-dependent suicide victims have experienced the loss of a close, affectionate relationship during the previous year. The largest group of male alcohol-dependent patients is composed of those with an associated antisocial personality disorder. Studies show that such patients are particularly likely to attempt suicide; to abuse other substances; to exhibit impulsive, aggressive, and criminal behaviours; and to be found among alcohol-dependent suicide victims.<sup>7</sup> A number of studies from Indian background have reported existence of psychiatric disorders in suicide attempters. Affective disorder is the commonest and substance use disorder being the second one.<sup>8,9</sup> In many countries including India, subjects who harm themselves frequently present to hospital emergency for medical complications arising as a result of self-harm. Hence, they form an important group to understand the psychosocial profile of patients who harm themselves. The studies to explore the psychosocial factors are scant in this part of the country. Hence, this study was taken up to study the profile and psychiatric diagnosis of the suicidal attempters especially in alcoholics.

## MATERIAL AND METHODS

This was an observational, cross sectional study. Patients were enrolled in the study after obtaining a written informed consent in their local language. A sample of 100 cases of alcoholic, age group of 15 to 65 attending tertiary care centre with diagnosis of alcohol abuse/dependence were included in this study. Diagnosis was based on diagnostic criteria of alcohol abuse/dependence of DSM-IV-TR. History of the patient was recorded in a semi-structured performa which was a pre-designed interview

questionnaire enquiring the patient about the socio-demographic data and various clinical details. Focus was on attempted suicide, either in past or present. Detail records of attempts and method of those attempts were also recorded. Patients were rated on MADRS and GAF rating scales. Routine physical examinations and investigations were also carried out. The data so obtained was compiled and analyzed using Statistical Package for the Social Sciences (SPSS vs 21).

## RESULTS AND DISCUSSION

### Age and sex

This study had shown that almost half of the alcoholic subjects belonged to 21 – 30 years of age group and the alcoholics who attempted suicide also belonged to the same age group. Most of the alcoholics who attempted suicide were males. In a study by Bakken *et al*, about 31% of the substance use suicide attempters were aged less than 30 years similar to the results of this study and about 21% of the attempters were females in contrary to the results of this study.<sup>10</sup> In a study in Pune, Saha *et al* had shown that about 32% of the alcoholic subjects belonged to 35 – 45 years.<sup>11</sup>

### Occupation

In this study about 42% of the alcoholic subjects and 50% of the attempters were self-employed. It was reported from the available literature that the unemployed patients are at higher risk of attempting for suicide than those who are employed. In a case control study by Srivastava *et al*, about 46% of the cases who attempted suicide were unemployed, were either farmers and labourers.<sup>12</sup>

### Residence

More than half of the subjects and suicide attempters were from rural areas. The availability and accessibility of alcohol and chemical methods such as organophosphorous compounds influences the rate of suicide in urban and rural areas.

### Religion

About 95% of the total alcoholics and all the suicide attempters were Hindu by religion. However similar studies were not available to compare these study results.

### Type of family

Majority were from nuclear family and so were the alcoholics who attempted suicide. The joint family has an advantage over nuclear families as other family members shoulder the responsibility especially in life stressing situations such as family conflict and financial losses.<sup>12</sup>

### Socio economic status

In this study the alcoholic subjects of lower middle and upper lower socioeconomic status attempted suicide. These results could not be compared due to the paucity of studies. Literature suggests that the financial problems are

less in people belonging to upper socio economic status and hence the suicide rates.<sup>13</sup>

#### **Prevalence of suicidal attempts**

The prevalence of suicidal attempt was 34%. Saha *et al.* have shown in their study that about 10% of the alcohol dependent subjects attempted for suicide.<sup>11</sup> In a study by Ray *et al.*, the prevalence of suicide was found in 31.1% of the subjects without alcohol abuse and 32.7% in subjects with alcohol abuse. The wide variation of the prevalence of suicidal attempts among alcoholics might be due to regional and individual variation.<sup>14</sup>

#### **Current/ Past suicidal attempt**

Study had shown that about 52.9% of the subjects who had attempted suicide had done so in the past and 47.1% of them reported with current suicidal attempt. The past history of suicide attempt is the best indicator that a patient is at increased risk of suicide. The studies have shown that nearly 40% of the depressed patients who attempt suicides have made previous attempts. The risk of second attempt is highest within 3 months of the first attempt.<sup>15</sup>

#### **Current stressors/ significant life events**

The current stressor/ significant life event was present in only about 30.0% of the suicidal attempters in this study suggesting that the alcoholic subjects may not have a significant life stressor event leading to attempt for suicide. The literature had shown that the persons who attempted suicide mostly have experienced a number of stressful life events in the three months prior to suicide. Such stressful life events may be interpersonal problems, rejection from the family or losses.<sup>16</sup> However the results of our study were contrary to the popularly held belief.

#### **Family history of suicide**

Family history of suicide was present in 38.2% of the alcoholics with suicidal attempt in this study. Literature suggests that the suicides tend to run in families but such a phenomenon might either be caused by common exposure among the family members to environmental or socio – cultural risk factors for suicide or by genetic link for risk factors for suicide, such as depression.<sup>13</sup>

#### **Planning and Motive for suicide attempts**

About 44.1% of the subjects who had attempted suicide had planned for the suicide before attempting. The motive was feeling hopeless and to escape/solve the problem. The difficulties or conflicts which may bring the person to believe that his or her future is without hope can trigger the psychological crisis resulting in attempted suicide/DSH.<sup>13</sup>

#### **Substance use**

About 54% of our study subjects were consuming alcohol exclusively, 5% were using alcohol and cannabis, 4% were consuming alcohol and opioids and 37% were consuming alcohol and nicotine. In a study by Bakken *et*

*al.*, about 19% of the suicidal attempters were poly-substance dependent and 19% were alcohol dependent.<sup>10</sup>

#### **Medical/ surgical morbidity**

Medical/ surgical morbidity was present in 16% of all alcoholics of which 17.6% had attempted suicide. Even though the literature available suggests that the medical and surgical morbidity can result in suicidal attempt, no studies were available to compare these results in alcoholic subjects. A case control study from Pondicherry has also shown that the pain and physical disorder was identified as significant risk factor in a case control study in Pondicherry.<sup>12</sup>

#### **Type of compound used for the attempt**

About 76.6% of the alcoholics who attempted suicide did so by poisoning, 11.8% of the suicides were hanging and 5.9% used jumping from height and alcohol overdose for suicide. Haw *et al.* have also observed that self poisoning was the main mode of DSH in a group of psychiatric patients.<sup>12</sup>

#### **Intent for suicidal attempt**

The intent to attempt suicide was present in all the alcoholics who attempted suicide in this study. The intent was present since less than three months in 29.4% of the subjects and since more than 1 year in 14.7% of the alcoholics.

#### **Psychiatric co-morbidity and MSE findings**

Among the psychiatric morbidities, depression was present in 13 subjects, and the other common psychiatric co-morbidities were personality disorder (7 subjects) and anxiety disorders (5 subjects); schizophrenia, schizophreniform or brief psychotic disorder (3 subjects); delusional disorder (2 subjects). Bakken *et al.* have observed that, 19% of the substance dependent suicidal attempters had AXIS I disorder, 43% had bipolar disorder, 18% had major depression, 12% had post-traumatic stress disorder and 39% had eating disorder.<sup>10</sup> MSE findings were present in about half of the alcoholics in this study. All the alcoholics with history of suicidal attempt and 24.2% of those who had not attempted suicide had positive MSE findings.

#### **DSM IV-TR criteria for alcohol dependence and abuse**

According to DSM IV-TR criteria of alcohol abuse 65% subjects were alcohol abusers out of which 22% attempted suicide and 45 % of the abusers did not. According to DSM IV-TR criteria of alcohol dependence out of the total hundred subjects, 35% were alcohol dependents out of which 12% attempted suicide and the rest 23% did not attempted suicide. In study by, Stone *et al.* suggested that “persistent alcohol abuse doubles the risk of suicide” especially in borderline personality disorder.<sup>18</sup>

## GAF scores

Subjects without suicidal attempt were having a better functioning with majority of them (18.2%) were in the GAF score range of 71-80. In contrast, subjects with suicidal attempt were having a relatively poor functioning with majority of the subjects (26.5%) in the GAF score range of 11-20. Among the suicidal patients, 16 subjects were with a current suicide attempt. This fact probably explains the relatively lower GAF scores among the subjects with suicidal attempt. In study by Lavania *et al.*, the GAF scores in substance dependence patients with deliberate self-harm was 70.67 and 76.6 in patients without deliberate self-harm.<sup>[19]</sup> The literature available suggests that the patients with DSH have lower GAF scores compared to those patients with no deliberate self-harm. The GAF scale considers psychological, social and occupational functioning on a hypothetical continuum of mental health illness.

## CONCLUSION

Subjects of alcohol abuse or dependence are known to have plenty of co-morbid psychiatric issues and many of them attempt suicide and other acts of deliberate self harm. This study was undertaken mainly to study the prevalence of suicidal attempt and its determinants in alcoholic dependent/abuse subjects. Majority of the alcoholics who attempted suicide were young males who were self-employed, Hindus, and belonged to a nuclear family. Significant life event and family history were the predictors of suicidal attempt in alcoholics and also majority of attempts were impulsive. Poisoning was commonest method of suicide. Among the means used for poisoning, organophosphorous was the most commonly used poison followed by sedative and hypnotic drugs.

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Source of Support: None Declared  
Conflict of Interest: None Declared