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A Study of Prevalence and Comorbidity of Depression and Suicidal Behavior in Persons Suffering From Alcohol Use Disorders

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ABSTRACT

Alcohol Dependence and alcohol use disorders are the most prevailing problems faced by our country. People are suffering a lot. It is associated with domestic violence, physically abusing the spouse. It is the burning problem in India.

Most of the persons having alcohol use disorders are having depression and suicidal behaviour. Types of motives for alcohol use includes coping motives, conformity motives, enhancement motives. While depression is predictive of drinking to cope and drinking to cope is predictive of alcohol-related problems, not all people with negative affect such as depression drink to cope or have alcohol-related problems. People with anxiety, depression and bipolar disorder will consume alcohol for temporary relief. Therefore, information regarding the need to assess the persons suffering from alcohol use disorders. In order to reduce the rate of depression and suicides in our country this study has been done.

KEYWORDS

Alcohol use disorders. Alcohol Dependence. Prevalence. Comorbidity. Depression. Suicidal Behaviour.

INTRODUCTION

Globally, alcohol consumption has increased in recent decades, with all or most of that increased occurring in developing countries. Alcohol consumption has health and social consequences via intoxication (drunkenness), dependence (habitual, compulsive and long – term drinking), and bio –chemical effects. Alcohol dependence syndrome is a complex disorder that includes the social and inter- personal issues

Types of motives for alcohol use that have been explored in the literature include coping motives, social motives, conformity motives, and enhancement motives (Cooper, Russell, Skinner, & Windle, 1992; Cooper, 1994; Cox & Klinger, 1988). Carey and Correia (1997) found that motives for drinking alcohol contributed significantly to alcohol-related problems, even after the amount of alcohol

It has also been shown that drinking to cope is predictive of symptoms of abusive drinking, such as social and occupational dysfunction (Cooper et al. 1992; Cooper, 1994; Cooper et al. 1995). It is clear from the literature that negative affect such as a depression often leads to using alcohol in an attempt to cope, which in

Turn contributes to the prediction of alcohol-related problems. In addition, it is thought that individuals who drink to cope may impede their ability to utilize more positive coping skills, thereby increasing psychological dependence on alcohol in situations that require coping with negative affect (Cooper et al., 1995).

While depression is predictive of drinking to cope and drinking to cope is predictive of alcohol-related problems, not all people with negative affect such as depression drink to cope or have alcohol-related problems.

It is thought that clients who suffer from both negative affect and alcohol use problems lack knowledge of or practice with more adaptive coping skills (Lewinsohn & Arconad, 1981) and therefore tend to utilize the more maladaptive strategies such as using alcohol to deal with negative mood states. Social learning theory posits that negative affect leads individuals to search for ways to cope and relieve their distress. If substance use has worked in the past to relieve these negative affect states, it may be relied on in the future. Negative affect and depression, specifically, have been shown to be risk factors in the development of alcohol problems (Holahan, Moos, Holahan, Cronkite, & Randall, 2004; Weitzman, 2004). Research has also shown that negative affect such as depression is associated with reports of drinking as a way to cope with negative mood states and that drinking to cope is predictive of increased levels of Alcohol-related problems (Carey & Correia, 1997; Carpenter & Hasin, 1999; Carpenter & Hasin, 1998; Cooper, Russell, & George, 1988; Holahan et al. 2004).

People with anxiety, depression, and bipolar disorders might consume alcohol for temporary relief from their symptoms. People with antisocial personality disorder, may use alcohol as part of a dual diagnosis of criminality and substance dependence.

Alcohol abuse may lead to suicidality through dis-inhibition, impulsiveness and impaired judgment, but it may also be used as a means to ease the distress associated with committing an act of suicide. Additionally, co – morbid psychiatric disorders are found to common in patients with alcohol use disorders. Alcohol use is highly prevalent worldwide, and suicide is highly prevalent in populations of patients with alcohol use disorders however, comorbid psychopathology is neither sufficient nor necessary for the association (14). Alcohol use and suicide are intimately linked, but they are both complex phenomena, springing from a multitude of factors.

Menninger conceptualized addiction itself both as a form a chronic suicide and as a factor involved in focal suicide (deliberate self – harming accidents).

Suicide is an escalating public health problem, and alcohol use has consistently been implicated in the precipitation of suicidal behavior.

Multiple genetically – related intermediate phenotypes might influence the relationship between alcohol and suicide. Psychiatric disorders, including psychosis, mood disorders and anxiety disorders, as well as susceptibility to stress, might increase the risk of suicidal behavior, but may also have reciprocal influences with alcohol drinking patterns. Increase suicide risk may be heralded by social withdrawal, break down of social bonds, and social marginalization, which are common outcomes of untreated alcohol abuse and dependence.

Therefore this study tries to unravel the complex relation be-

tween substance dependence and affective disorders.

REVIEW OF LITERATURE

This study aims to understand the complex relationship that exists between alcohol dependence syndrome and affective disorders.

Alcohol dependence syndrome is coded in international classification of diseases under category F 10 and associated disorders are coded under substance induced disorders.

F1x.1 Harmful use

A. Clear evidence that the substance use was responsible for (or substantially contributed to) physical or psychological harm, including impaired judgment or dysfunctional behavior.

B. The nature of the harm should be clearly identifiable (and specified).

C. The pattern of use has persisted for at least one month or has occurred repeatedly within a twelve-month period.

D. The disorder does not meet the criteria for any other mental or behavioral disorder related to the same drug in the same time period (except for acute intoxication F1x.0).

F1x.2 Dependence syndrome

A. Three or more of the following manifestations should have occurred together for at least one month or if persisting for periods of less than one month then they have occurred together repeatedly within a twelve month period.

(1) A strong desire or sense of compulsion to take the substance.

(2) Impaired capacity to control substance-taking behavior in terms of onset, termination or level of use, as evidenced by: the substance being often taken in larger amounts or over a longer period than intended, or any unsuccessful effort or persistent desire to cut down or control substance use.

(3) A physiological withdrawal state (see F1x.3 and F1x.4) when substance use is reduced or ceased, as evidenced by the characteristic withdrawal syndrome for the substance, or use of the same (or closely related) substance with the intention of relieving or avoiding withdrawal symptoms.

(4) Evidence of tolerance to the effects of the substance, such that there is a need for markedly increased amounts of the substance to achieve intoxication or desired effect, or that there is a markedly diminished effect with continued use of the same amount of the substance.

(5) Preoccupation with substance use, as manifested by: important alternative pleasures or interests being given up or reduced because of substance use; or a great deal of time being spent in activities necessary to obtain the substance, take the substance, or recover from its effects.

(6) Persisting with substance use despite clear evidence of harmful consequences, (see F1x.1), as evidenced by continued use when the person was actually aware of, or could be expected to have been aware of the nature and extent of harm.

The diagnosis of the dependence syndrome may be further specified by the following five character codes:

F1x.20 Currently abstinent

F1x.200 early remission

F1x.201 partial remission

F1x.202 full remission

F1x.21 Currently abstinent but in a protected environment (e.g. in hospital, in a

Therapeutic community, in prison, etc.)

F1x.22 Currently on a clinically supervised maintenance or replacement regime [controlled dependence]

Flx.23 Currently abstinent, but receiving treatment with aversive or

Blocking drugs (e.g. naltrexone or disulfiram)

Flx.24 currently using the substance [active dependence]

F1x.240 without physical features

F1x.241 with physical features

The course of the dependence may be further specified, if desired, as follows:

Flx.25 Continuous use

F1x.26 Episodic use [dipsomania]

Alcohol and other substance dependence

Etiology

Social, cultural, psychological, behavioral, environmental and genetic factors are represented in the etiology of substance use disorders (Vaillant 1995, Schuckit 1995a-b, Poikolainen 1997b). The impact of genetic and environmental factors is currently being vigorously studied (Heath et al 1997, Tsuang et al 1998, Merikangas et al 1998, Bierut et al 1998). Prescott and Kendler estimated a 48% 58% contribution of additive genetic factors to the liability to alcohol dependence in a population-based male twin study (Prescott & Kendler 1999), while among

Females the heritability of liability to alcoholism was estimated at 50%-60% according to a population-based twin study (Kendler et al 1992). In these studies no evidence for effects of shared environmental factors emerged, whereas in the case of other psychoactive substances an influence of family environmental factors has been found (Tsuang et al 1998).

Despite substantial efforts, the specific regulator genes and their final targets have yet to be determined, but areas on chromosomes 1, 2, 4, 7, 11 and Y-chromosomes have been attracted interest (Schuckit 1997, Goate & Edenberg 1998, Reich et al 1998, Kittles et al 1999). An association of antisocial alcoholism with the serotonin 5-HT1B receptor gene has been reported (Lappalainen et al 1998). On the other hand, certain functional polymorphisms of alcohol dehydrogenase (ADH) and aldehyde dehydrogenase (ALDH) enzymes are protective against alcohol dependence due to an aversive effect of cumulating aldehyde, and are relatively common in Asian populations (Goate & Edenberg 1998, Reich et al 1998).

On the phenotype level, reduced amplitude of brain P300 awakening potential and a lowered EEG alpha activity have been found among alcohol dependent subjects and their close relatives, regardless of current drinking status

(Cook 1994, Begleiter et al 1998). Initial sensitivity to alcohol, a familial, increased tolerance to effects of alcohol (Schuckit et al 1996, Schuckit 1997), and lowered EEG response to a dose of alcohol (Volavka et al 1996) are thought to indicate vulnerability to alcohol dependence. Overall, many observations seem to reflect specific characteristics of central nervous system functioning - including a somewhat altered response to alcohol use - among those with a high familial loading of alcohol use disorders. Psychological and psychosocial approaches to the etiology of substance use disorders have varied. Earlier psychodynamic theories concerning substance dependence

mentioned it as a masturbatory equivalent, a defense against homosexual impulses or a manifestation of oral regression. In more recent psychology it has been formulated as a reflection of disturbed ego function (Schuckit 1995b). According to psychoanalytic observers, weakness of ego and difficulty in maintaining self-esteem, as well as problems with modulation of affect and the capacity for self-care have been thought to associate with alcohol dependence (Donovan 1986, Khantzian 1982, see Gabbard 1994 for a review). Parallels with personality disorders have also been suggested (Hartocollis 1982, Kernberg 1975, see Gabbard 1994 for a review). People with alcohol use disorders are thought to be self-punitive, shy, isolated, impatient, irritable, anxious, and hypersensitive and sexually repressed (Schuckit 1995b). Cognitive, behavioral and social psychological theories refer to concepts of classical and operant conditioning, stimulus generalization and extinction, self handicapping, social learning, and drinking expectancies in the etiology of alcohol use disorders (Cook 1994). On the other hand, the variation in the availability of alcohol as well as several life-situational and cultural factors are considered to associate with rates of alcohol use disorders in a wide range of countries (Cook 1994, Vaillant 1995).

CLINICAL CHARACTERISTICS OF ALCOHOL DEPENDENCE

Besides the established physical and behavioral symptoms - e.g. withdrawal symptoms, tolerance and loss of control - the clinical syndrome of alcohol dependence often includes typical alcohol-related consequences. These include

Problems in interpersonal relationships, employment, and with the law (Schuckit 1995a-b). On the other hand, variation in the clinical characteristics of subjects defined as alcoholic has been emphasized (Vaillant 1995). A study of DSM-III alcohol dependent males and females in a clinical population found more alcohol-related problems among males, but the sex difference disappeared when length of alcohol abuse history, antisocial personality disorder and employment status were controlled for. The overall prevalence of other drug use disorders was similar in both sexes, but women were more likely to abuse sedatives and minor tranquilizers (Ross 1988). In addition, similarity in order of appearance of alcohol related problems among alcohol dependent males and females in clinical samples has been

Reported (Schuckit et al 1998). Several classifications for probable subtypes of alcohol dependence have been suggested. According to Cloninger, on the basis of a large Swedish adoption study in 1981, type I alcoholism is characterized by adult onset, relatively slow course and anxious personality traits (Cloninger et al 1981). Type II alcoholism is thought to have relatively high

familiality, to appear predominantly in males, to have early onset, antisocial and multiple impulsive behavior, including suicidality, and to associate with low serotonin turnover rates as indicated by low cerebrospinal fluid serotonin metabolite concentrations (Virkkunen et al 1994). Some recent genetic findings seem to support and add validity to this kind of sub typing (Nielsen et al 1998, Lappalainen et al 1998). Another sub typing of alcoholism into types A and B has similarities with the Cloninger subtypes, being also based on the age of onset (Babor et al 1992). Alcohol use and misuse occur on a continuum, and associated problems may occur far before actual diagnosable alcohol dependence (Heather 1994, Rohde et al 1996). The normal cutoff point for making an alcohol use disorder diagnosis in adults may be particularly inappropriate for adolescents, who often have sub threshold mental disorders not fulfilling all required diagnostic criteria for specific psychiatric disorders (White & Labouvie 1989, Rohde et al

Many studies have studied various aspects of relation between alcohol and affective disorders. Alterations of mood states not only occur during long term of alcohol but even Alcoholic intoxication commonly produces a "high" with attendant giddiness and lowering of inhibitions. Conversely, hangovers and acute withdrawal typically produce dysphoria, with elements of anxiety and depression mixed with physical malaise. Psychopathological studies have observed that alcoholism and affective disorders (e.g., depression and mania) interact and can coexist; moreover, the vulnerability to both alcoholism and depression can run in families (Merikangas and Gelernter 1990; Merikangas et al. 1994).

Epidemiology

In epidemiological studies alcohol and other substance use disorders are among the most frequent of mental disorders. While prevalence of these disorders are higher for men (Kessler et al 1994), there is some evidence that addictive disorders among females have risen in recent decades, particularly among young women (Beary & Merry 1986, Blume 1986, Gomberg 1993, Alexander 1996, Anonymous 1996, Ashworth & Gerada 1997). In the National Co morbidity Survey (NCS) the lifetime prevalence of alcohol and drug dependence were 20.1% and 9.2% for males and 8.2% and 5.9% for females in the general population (Kessler et al 1994). A broader category of either abuse or dependence is perhaps more convergent with the general concept of misuse (Chick & Cantwell 1994), although it may lack diagnostic validity (Cottler et al 1995). In the NCS the 12 month prevalence of any substance abuse or dependence was 16.1% for males and 6.6% for females, whereas lifetime prevalence was 35.4% and 17.9% (Kessler et al 1994).

Co morbidity

Co morbid disorders are said to concentrate in a minority of the general population (Kessler et al 1994). The co-occurrence of addictive and other mental disorders in the general population is highly prevalent: 41.0% to 65.5% of subjects with a lifetime addictive disorder are reported also to have a lifetime history of at least one other mental disorder (Kessler et al 1996, Kessler et al 1997). In males, alcohol use disorders are often thought to precede affective disorders (Kessler et al 1996) whereas in females the opposite has been proposed (Hesselbrock 1985, Helzer &

Pryzbeck 1988, Kessler 1995). Helzer and Pryzbeck reported in the ECA more "dual-diagnoses" among alcohol dependent subjects than persons with other psychiatric disorders. A second diagnosis of drug abuse or dependence was found in 31% of women compared to 19% of men, and major depression was nearly four times more frequent in women (19% vs. 5%). In co morbid cases 78% of men were found to have had alcoholism prior to another diagnosis, whereas in women this was true in only 34% (Helzer & Pryzbeck 1988). Although the clinical pictures of independent and substance-induced depression show similarities, the associating sociodemographic characteristics, suicidal behavior, proper treatment and prognosis may differ (Schuckit et al 1997). In a case-controlled study recent life events were reported to precede the onset of a secondary depression among secondary depressed alcohol dependent males (Roy 1996).

Course and outcome

Alcohol dependence has a relapsing and remitting clinical course of drinking and abstinence periods, the length of both fluctuating widely. The long-term clinical course and outcome may vary remarkably from a deteriorating and progressive course of chronic dependence to a more stable career of remitting abuse (Nordström & Berglund 1987, Schuckit et al 1995, 1998, Vaillant 1996, Neve et al 1997, Mäkelä 1998). Factors predicting the outcome in the initial phase of the course are difficult to identify (Vaillant 1995). In an up to 30 years follow-up study of two socially divergent groups, the "Core City sample" and the "College sample", Vaillant (1996) found that in both groups alcohol abuse remained relatively stable without remission or progression of symptoms, merely fluctuating in severity. The socially more disadvantaged "core city men" were more likely to become alcohol dependent, but also to achieve stable abstinence than the college sample, whose alcohol abuse began later but who more often maintained a pattern of lifelong intermittent alcohol abuse. An increased mortality before the age of 60 years was reported

among both samples with alcohol abuse (15% and 25%, respectively). By 60 years of age 32% of the alcohol dependent had died compared to 62% of the college men at 70 years, these proportions being higher than among the nondependent in the samples and in the general population of white men. This elevated mortality was suggested to be partly due to heavy smoking and to heart disease and cancer (Vaillant 1996).In a long-term Swedish follow-up study of originally 2612 subjects, a population of 41 originally nonalcoholic men diagnosed as alcoholic during 1957-72 were examined through 1993. Before the age of 60, 27% had died, accidents and suicides having been the cause of death in 44%. Overall, the study replicated the observation of a significant reduction in life expectancy among alcohol dependent males (Öjesjö et al 1998). Treatment population studies represent more morbid subjects, among whom the course of alcohol dependence is more progressive than in the general population. In a study of hospitalized female and male alcoholics males reported a longer duration of alcohol abuse problems and a higher number of alcohol-related problems than women (Hesselbrock 1991). Alcoholic women tend to report experiencing driving and nondrying arrests, feelings of guilt and the formation of rigid drinking patterns earlier in their development of problems than their male counterparts. The age of onset of regular drinking for women reportedly occurs a little later. Despite that, their first experience with formal treatment occurs slightly earlier than among the alcohol-dependent men (Ross 1989, Schuckit et al 1995, 1998). Neuropsychobiology of alcohol use:

The acute effects of alcohol and other substances are diverse, and knowledge about the neurobiological processes involved is constantly expanding (Kiianmaa & Hyytiä 1998). Contemporary theories about the long-term central actions of psychoactive substances integrate neurobiological and behavioral knowledge in terms of positive and negative reinforcement and adaptive changes particularly in neurons of venterotegmental areas of the brain (Koob 1997, Kiianmaa 1998). The mesolimbic dopaminergic areas are thought to act as a general reward and pleasure

system through which the reinforcing effects of different substances are mediated. The pharmacological actions of alcohol are numerous and relatively nonspecific. Potential mechanisms are general effects on the lipid solubility of membranes of neurons, particularly dopaminergic neurons in the ventral tegmental areas of the brain, and specific effects on the neurons of the transmitter systems involving gamma-aminobutyric acid (GABA) or N-methyl-d-aspartate and serotonin. (Schuckit 1995a-b, Stahl 1996). In chronic substance use, tolerance and dependence associate with receptor adaptations and the up-regulation of the cAMP pathway in neurotransmitter synthesis (Nestler & Aghajanian 1997).

A model of progressively increasing dysregulation of the brain reward system resulting in compulsive substance use and a loss of control has been presented. Counter adaptation and sensitization are proposed to be important neurobiological mechanisms underlying the development of psychoactive substance dependence (Koob 1997, Nestler 1997). The effect of stress on the use of alcohol and the development of dependence on it via the hypothalamic pituitary- adrenal axis and glucocorticoids has been a topic of interest in recent studies (Gordis 1996 Kiianmaa 1998).

ALCOHOL DEPENDENCE AND DEPRESSION:

Various possible relationships between alcoholism and affective disorders have been postulated . For instance, some patients may use alcohol as a form of self-medication for an affective disorder. In these cases, alcoholism may develop secondarily to the affective disorder. Alternatively, depression may develop as a result of alcoholism; in these cases, alcoholism is the primary disorder and depression is considered an organic mood disorder (i.e., a mood disorder with a physiological cause). Other alternatives are that both alcoholism and affective disorder may develop as the result of a common genetic predisposition or may develop as completely separate illnesses. These different hypotheses about the relationship between alcoholism and affective disorders have different implications for the prevalence of these illnesses in family studies .For example, if alcoholism were the primary disorder and depression occurred as a result of it, relatives of alcoholics would be expected to have an increased risk of alcoholism with secondary depression but not of depression alone. Relatives of people with depression but without alcoholism would be expected to have an increased risk of depression only. However, if depression were the primary disorder and alcoholism occurred secondarily to it, relatives of non depressed alcoholics would be expected to have an increased risk of alcoholism only, whereas relatives of people with depression would be expected to have an increased risk of depression with secondary alcoholism.

Winokur and colleagues (1971) postulated that depressive illness could be divided into four types, depending on familial pattern of illness. These included (1) sporadic depressive disorder, which was nonfamilial; (2) pure depressive disorder, in which depression (but not alcoholism or sociopathy) was found in several relatives; (3) depressive spectrum disorder, in which depression as well as alcoholism or sociopathy was found in relatives of depressed subjects; and (4) bipolar depression, which was found in families with bipolar illness. It is of interest that the families examined in the Collaborative Study on the Genetics of Alcoholism (COGA), show an increased risk for sociopathy as well; interactions between depression and alcoholism, including the role of sociopathy, will be the subject of future analyses (Nurnberger et al. 2002).

Thus, it appears likely that both alcoholism and depression exist in various forms (i.e., are heterogeneous) and that the co-occurrence (i.e., co morbidity) of both disorders may have different underlying mechanisms as well. Findings with animal models that have examined alcohol consumption and "depressive" behavior have also been heterogeneous. (For more information on such animal models, see the sidebar.) At this point, it is difficult to identify subtypes of both disorders on the basis of clinical criteria alone. Genetic studies such as COGA, however, may help with this distinction.

The COGA project, conducted at several research centers across the United States, seeks to identify genes contributing to the development of alcoholism and related characteristics (i.e., phenotypes) The genetic analyses demonstrated evidence for linkage of the AorD phenotype with a region on chromosome 1, and the same region also showed evidence, though less substantial, of linkage with the ALC phenotype. Edwards et al found that Depression and alcohol dependence (AD) are common psychiatric disorders that often co-occur. Both disorders are genetically influenced, with heritability estimates in the range of 35-60%. In addition, evidence from twin studies suggests that AD and depression are genetically correlated. Genes that have been previously associated with depression or other addiction-related phenotypes - such as CDH13, CSMD2, GRID1, and HTR1B - were implicated by nominally significant single nucleotide polymorphism.

In a study by slopen et al it was found that higher rates of major depression (md) among females, and of alcohol dependence (ad) among males, are among the most routinely reported findings in psychiatric epidemiology. One of the most often pursued explanations for sex differences in both disorders suggests that males and females have a differential vulnerability to stressors, which is manifested in sex-specific ways (md for females, ad for males The number of stressful life events was predictive of first onset mood disorders and alcohol dependence. This was true for both males and females, and sex-by-stress interaction terms did not support the hypothesis that sex-specific responses to stressful life events lead to sex differences in first onset of md and ad among adults.

In a study by Rubio et al the 12-month and lifetime prevalence of Chronic major depressive disorder within the population meeting was 26.5% and 24.0%, respectively in individuals

with alcohol dependence syndrome Individuals reporting a chronic course of MDD were socioeconomically and educationally disadvantaged, tended to be older, report loss of spouse or history of divorce, live in rural areas, have public assistance, low self-esteem, worse overall health and more likely to report co morbidities, most importantly dysthymia, generalized anxiety disorder, avoidant, and dependant personality disorder

In Longitudinal Aging Study Amsterdam sample of 2119 participants aged 65 to 85 years at baseline, was followed over time and visited in their homes for ten years. Only older heavily drinking men had higher levels of depressive symptoms, higher levels of anxiety, and more chronic diseases at baseline

In a study done by salud et al Alcoholics had high rates of co morbidity with other psychiatric disorders. It is known that women are more likely to have psychiatric co morbidity than men. Existence of co morbidity in alcoholism implies a worse prognosis in the disease evolution

Psychiatric disorders most frequently associated with alcoholism are personality disorders (30%), adjustment disorders (24%), depressive disorders (22%), and anxiety disorders (18%). In schizophrenic patients, the rate of alcoholism is 11% and in bipolar disorders 9%. After two years of follow up, it was found that 28% of the patients with psychiatric disorders associated with alcoholism were in abstinence compared to 41.90% of the control sample. Therefore, there is evidence of a worse outcome of patients suffering from a dual diagnosis

Greenfield et al studied the effect of depressive symptoms on course of substance use disorders and variable outcomes after three months. It was found that patients with major depressive disorder symptoms had higher relapses and had the outcomes were worse in patients with depressive symptoms. Prisciandaro et al suggest that depressive symptoms and alcohol craving increase proximal risk for alcohol use in individuals with co-occurring bipolar and alcohol use disorders.

In a study by boshcool et al it was found that the severity of alcohol dependence was predictor of severity of depressive disorders and the intensity of depressive symptoms was higher in people with severe alcohol related problems.

Suicidal behavior and substance use disorders

Suicidality represents a significant problem worldwide and more lives are lost to suicide than to homicide or war each year (Hendin et al., 2008; World Health Organization 2002). In the U.S., 30,000 lives are taken annually and an additional 600,000 attempts are made (Center for Mental Health Services, 2001; Hufford, 2001; Mokdad, Marks, Stroup, & Gerberding, 2004). Although suicide is the most severe, irreversible form of suicidality, suicidal ideation (SI) is also a significant problem. It has been associated with impaired functioning (Brener, Hassan, & Barrios, 1999; Stephenson, Pena-Shaff, & Quirk, 2006) and may be considered a necessary, although not sufficient, precursor to completed suicide.

The contribution of alcohol and other substances to completed suicides and suicide attempts is complex and appears to constitute effects ranging from psychosocial disruption to disinhibited and dysphoric states of mind and choice of suicide method (Tamerin & Mendelson 1969, Mayfield et al 1972, 1979, Roy & Linnoila 1986, APA 1995, Schuckit et al 1995, 1998, Öhberg 1998). Murphy and Wetzel (1990) estimated that 2% to 3.4% of alcohol dependent subjects in the general population commit suicide. According to a recent meta-analysis of mortality studies, the lifetime risk for suicide is 7% in alcohol dependence (Inskip et al 1998). The standardized mortality ratio (SMR) to suicide is estimated at 586 (95% CI 541-633) for DSM-III-R alcohol dependence and abuse (Harris & Barraclough 1997).In inpatient population studies alcohol and other substance use disorders have independently associated with suicidal ideation (Pages et al 1997, Hall et al 1998). However, the co morbidity of psychiatric disorders among alcohol dependent subjects reportedly relatively more important than the alcohol dependence for the suicidal risks (Driessen et al 1998). Cornelius et al (1995)

Depressed alcoholics had significantly higher suicidality than subjects with either depression or alcohol dependence. A wide range of level of AI, from heavy episodic (i.e., binge) drinking to a formal diagnosis of alcohol dependence, has been linked to suicidal behavior (Dawson, Grant, Stinson, & Chou, 2004; Knight et al., 2002; Slutske, 2005), including SI (Hawkins et al., 1997; Hingson, Heeren, & Winter, 2006; Kosterman, Hawkins, Guo, Catalano, & Abbott, 2000) persons with chronic and frequent alcohol consumption had increased SI compared to infrequent or non drinkers (Prescott & Kendler, 2001), and patients who reported having "seriously considered" suicide over the past year were more likely to engage in heavy episodic drinking than those who did not (Cottler, Campbell, Krishna, Cunningham-Williams, & Abdullah, 2005). Age of drinking initiation (ADI) has been found to be a robust correlate of risk for alcohol dependence (Sher et al., 2005). A lower ADI has been associated with increased risk of later alcohol misuse and dependence than initiation at age 21 years (2004), although the nature of this relationship remains unclear (Hasin, Goodwin, Stinson, & Grant, 2005; Kessler, 2003b; Kessler et al., 1994). Similar to MDD, the onset for alcohol dependence peaks during late adolescence and early adulthood (Hasin et al., 2005). Men and women who report suicidal intent are more likely to meet criteria for alcohol abuse or dependence than non-ideators (American Psychiatric Association, 2003).

The authors suggested that alcohol dependence and depression act additively or synergistically, resulting in a disproportionate suicide risk among subjects with both disorders (Cornelius et al 1995).Among adolescents alcohol use and abuse per se are known to associate with aggressive and impulsive behavior, dysphoric mood, and - among alcohol abusers - suicide risk (Milgram 1993, Bukstein et al 1993). Abuse of or dependence on alcohol and other psychoactive substances among adolescents is often associated with multiple psychosocial problems, psychiatric co morbidity, suicidal ideation, suicide attempts (Berman & Schwartz 1990, Deykin et al 1994, Beautrais et al 1996, Weinberg et al 1998), and completed suicide (Brent et a 1988, Allebeck & Allgulander 1990, Shaffer et al 1996). Longitudinal studies of adolescent psychiatric patients and suicide attempters have found alcohol and drug abuse to be one of the major risk factors for suicide (Östman 1991, Hawton et al 1993). Substance use disorders along with other psychopathology, sociodemographic disadvantage and adverse childhood

experiences are also reportedly associated with risk of serious suicide attempts among adolescents (Beautrais et al 1996).

Alcohol and other substance use disorders in completed suicide

In most psychological autopsy studies more than 90% of the suicide victims have suffered from mental disorders, affective and addictive disorders being the most frequent (Robins et al 1959, Dorpat et al 1960, Barraclough et al

1974, Beskow 1979, Hagnell et al 1979, Chynoweth et al 1980, Mitterauer 1981, Shafii et al 1985, 1988, Rich et al 1986, Arato et al 1988, Brent et al 1988, Runeson 1989, Åsgård 1990, Conwell et al 1991, Marttunen et al 1991, Apter et al 1993, Henriksson et al 1993, Brent et al 1993, Lesage et al 1994, Cheng 1995, Conwell et al 1996, Shaffer et al 1996, Foster et al 1997). In unselected suicide populations alcohol abuse or dependence is retrospectively found among 15-56% of victims (Table 3). Co morbidity is common in suicide populations (Henriksson et al 1993, Cheng 1995, Conwell et al 1996, Foster et al 1997) and the highly prevalent substance use disorders and their co morbidity patterns are of considerable importance and interest.

MATERIALS AND METHODS

Study methodology

Study design: Hospital based cross sectional study

Study centre

In patient department of Sree Balaji Medical College & Hospital, Chennai.

Duration of study 6 – months (may 2012- October 2012)

Sample size 30 - patients

30 consecutive persons suffering from alcohol use disorders admitted in Sree Balaji Medical College & Hospital, Chennai – 44.were evaluated for severity of alcohol dependence syndrome and presence of depression and suicidal ideation on the seventh day of admission..

All male patients between age 18 – 60 years who are also referred from surgical and medical departments of Sree Balaji Medical College & Hospital were recruited for the study. Clearance was obtained from the ethical committee of Bharath University before starting the study. Permission was granted by the HOD of the Department of Psychiatry of Sree Balaji Medical College & Hospital, Chennai -44..Informed consent was obtained from all patients fulfilling the inclusion criteria and who were recruited for the study.

INCLUSION CRITERIA

Age : 18 to 60 years

Gender : male

Patients and informants who are giving informed consent.

Patients from the wards of psychiatry department of Sree Balaji medical college & hospital. Patients referred from medical and surgical wards of sree balaji medical college & hospital, chennai – 44.

EXCLUSION CRITERIA

Patients who are treated in the Department of Causality.

Patients who are admitted in ICU.

Female patients.

Patients in post operative wards.

H/o any other substance abuse or dependence (cannabis, opiods, sedatives except nicotine).

Mood disorders due to a general medical condition.

Comorbid seizure disorder, cluster B personality , mental retardation.

Patients without a reliable informant who is able to give details about the entire duration of the illness

AIM

To identify the prevalence of depression among persons suffering from alcohol use disorders.

To identify the prevalence of suicidal tendencies among persons suffering from alcohol use disorders.

To study the correlation various socio demographic variables to severity of alcohol dependence syndrome.

HYPOTHESIS

Depression:

There is high level of prevalence of depression among persons suffering from alcohol use disorders.

There are low levels of prevalence suicidal behavior among persons with alcohol use disorders.

The severity of depression is proportional to the severity of alcohol dependence syndrome.

The severity of suicidal intent is higher in patients with severe alcohol dependence.

INSTRUMENTS USED

Semi structured proforma was used for collecting socio demographic data and history about the patients.

Alcohol dependence modified SADD questionnaire

This questionnaire contains 12 questions covers a range of topics to do with drinking persons suffering from alcohol use disorders were asked to read the questions carefully and they were instructed to answer each questions by placing a tick mark under most appropriate headings.

The illness was measured on 4 point scale.

never, sometimes, often, nearly always.

The quantification of responses reveals the severity of the drinking pattern of the persons suffering from alcohol use disorders.

CAGE QUESTIONNAIRE

This questionnaire has 4 questions each one rating on cut down, annoyed, guilty and eye opener. These questions are asked to assess the intensity of person's desire and craving of drinking pattern for further clinical investigations needed by clinician's expertise.

HAMILTON DEPRESSION RATING SCALE

This scale measures seventeen dimensions related to depression. The patients have to respond to each component on different categories of rating. The score of twenty five or higher shows severe depressions.

18 to 24 – moderately depressed.

17 to 8 – mildly depressed.

0 to 7 – none.

HOSPITAL ANXIETY AND DEPRESSION SCALE

In this scale even questions of depression and odd questions for anxiety assessment.

Each item is rated over 4 points scale rating from 0 to 3.

A score of 8 – is significant,

A score of 11 – or more is highly significant.

SUICIDAL INTENT QUESTIONNAIRE

This tool assesses the magnitude of suicidal intent it contains 10 items, the response are recorded as often, sometimes and never.

They were scored 2, 1, 0 respectively.

The higher scored indicates the severity of suicidal intent.

THE TOOL FOR ASSESSMENT OF SUICIDE RISK

This suicide risk assessment tool consists of 3 profiles namely individual risk profile, symptom risk profile and interview risk profile.

The patients have to agree or disagree with respect to items on the profile. From then responses the level of suicide risk is will be rated as high, moderate and low.

STASTICAL ANALYSIS

All the data collected from the patients are nominal, ordinal and interval scales of measurements. Keeping in account of the objectives, hypothesis and nature of data – appropriate, descriptive, relational and differential analysis are attempted. Frequency distribution, percentage analysis, CHI-SQUARE analysis correlation analysis were applied for data analysis.

RESULTS:

Regarding the marital status, 93.3% (n=28) of the patients are married, 6.7% were unmarried, due to small sample size, evaluation of the effect of marital status over prevalence of depression could not be done. Regarding the educational status, 23.33% (n=7) were studied < 5 years of education.33.33% (n=10) were studied 5-10 years of education. 36.67% (n=11) were studied 10th to 12th standard of education. 6.67% (n=2) were graduates. Regarding the educational status of the patients sample it was found that most of the patients had ten or less than ten years of education. They counted for 93.3% of patients. Only 2 persons are graduates. 33.3% patients had 5 to 10yrs of education and most had discontinued due to financial constraints.

HAM-D	Frequency	Percent
MILDLY DEPRESSED	8	26.7
MODERATELY DEPRESSED	15	50.0
SEVERELY DEPRESSED	7	23.3
Total	30	100.0

Alcohol not only affects the persons of physical and mental health but also possess the deterioration of patient's behavior and personality. Most of the patients of our sample were unemployed for past 6 months were irregular to their jobs. 83.3% of patients had not gone for work for past 6 months. Only 5 patients out of 30 still had a job.

Prevalence of Depression

Table 1A

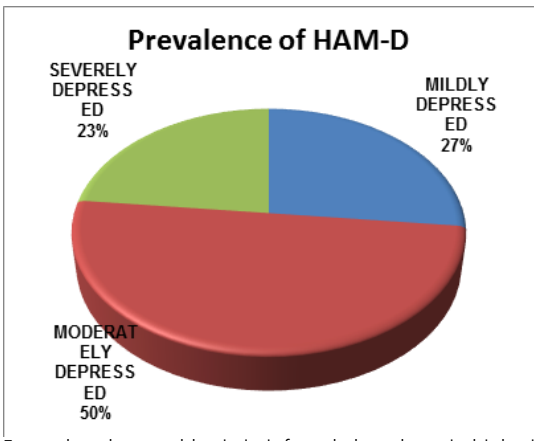
Prevalence of depression in Alcohol Dependence Syndrome by using the rating scale HAM-D.

For this table, 23.3% (n=7) are severely depressed. 26.7% (n=8) are mildly depressed. But most of the patients had moderate depression 50% (n=15).

Table 1B

Prevalence of depression among the study group by using the rating scale HADS.

HADS	Frequency	Percent
SIGNIFICANCE	2	6.7
LOW SIGNIFICANCE	3	10.0
HIGH SIGNIFICANCE	25	83.3
Total	30	100.0



From the above table, it is inferred that there is high significance 83.3% (n=25) of depression among the study group. 10% (n=3) had low significance of depression.

Graphical representation of the above mentioned results

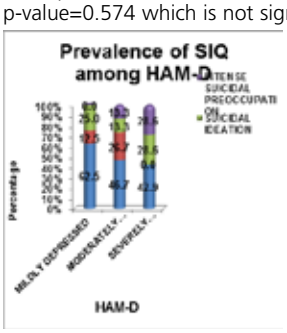
The above two figures illustrate the graphical representation of the above mentioned results.

Table 2A

Prevalence of suicide and comparison of suicidal intent and depression by using SIQ vs. HAM-D and TASR vs. HAM-D.

		HAM-D						Total		P-Value
		MILDLY DEPRESSED		MODERATELY DEPRESSED		SEVERELY DEPRESSED				
	N	%	N	%	N	%	N	%		
SIQ	Normal	5	62.5	7	46.7	3	42.9	15	50.0	0.574
	SUICIDAL PREOCCUPATION	1	12.5	4	26.7	0	0.0	5	16.7	
	SUICIDAL IDEATION	2	25.0	2	13.3	2	28.6	6	20.0	
	INTENSE SUICIDAL PREOCCUPATION	0	0.0	2	13.3	2	28.6	4	13.3	
Total		8	100.0	15	100.0	7	100.0	30	100.0	
TASR	LOW RISK	5	62.5	7	46.7	3	42.9	15	50.0	0.543
	MODERATE RISK	3	37.5	7	46.7	2	28.6	12	40.0	
	HIGH RISK	0	0.0	1	6.7	2	28.6	3	10.0	
Total		8	100.0	15	100.0	7	100.0	30	100.0	

The above table studies the correlation between the amount of depression and the suicidal ideation. Correlation shows p-value=0.574 which is not significant.

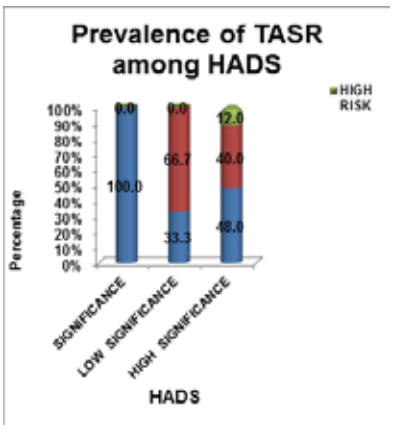


The above figure illustrates the correlation between the amount of depression and suicidal ideation.

Table -2B

		HADS						Total		P-Value
		SIGNIFICANCE		LOW SIGNIFICANCE		HIGH SIGNIFICANCE				
	N	%	N	%	N	%	N	%		
SIQ	Normal	2	100.0	1	33.3	12	48.0	15	50.0	0.464
	SUICIDAL PREOCCUPATION	0	0.0	0	0.0	5	20.0	5	16.7	
	SUICIDAL IDEATION	0	0.0	2	66.7	4	16.0	6	20.0	
	INTENSE SUICIDAL PREOCCUPATION	0	0.0	0	0.0	4	16.0	4	13.3	

TASR	LOW RISK	2	100.0	1	33.3	12	48.0	15	50.0	
	MODERATE RISK	0	0.0	2	66.7	10	40.0	12	40.0	
	HIGH RISK	0	0.0	0	0.0	3	12.0	3	10.0	
Total		2	100.0	3	100.0	25	100.0	30	100.0	0.707



PREVALENCE OF SUICIDAL INTENT WITH DEPRESSION:
The above table studies the correlation between

the scores of Hospital Anxiety Depression Rating Scale with suicidal ideation.

p-value for the correlation of scores in HADS and SIQ (p-value=0.464) are not significant.

The correlation between TASR and HADS scores is also not significant.

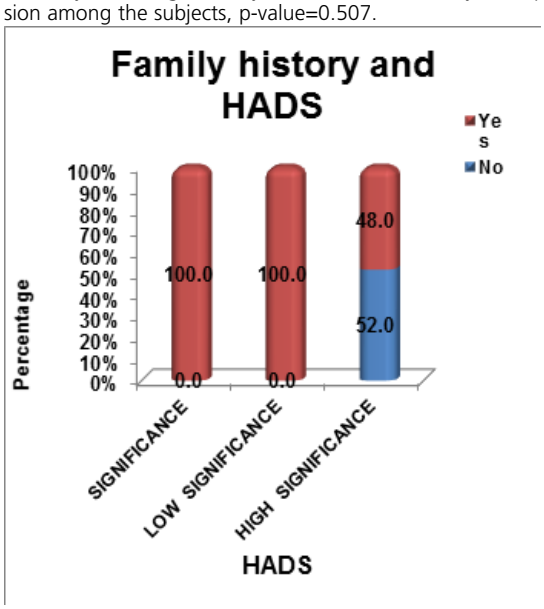
Table -3
CORRELATION OF POSITIVE FAMILY HISTORY OF ALCOHOL DEPENDENCE SYNDROME WITH SEVERITY OF DEPRESSION.

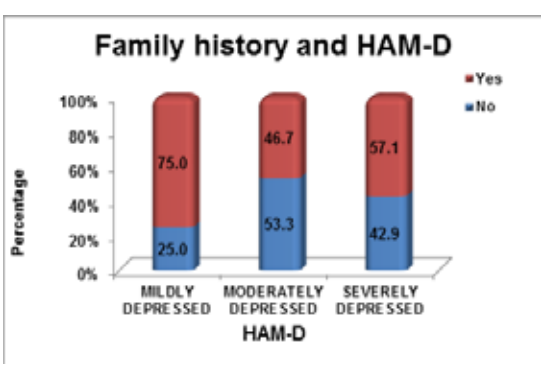
		HADS						Total		P-Value
	SIGNIFICANCE		LOW SIGNIFICANCE		HIGH SIGNIFICANCE					
	N	%	N	%	N	%	N	%		
FAMILY HISTORY	No	0	0.0	0	0.0	13	52.0	13	43.3	0.151
	Yes	2	100.0	3	100.0	12	48.0	17	56.7	
Total		2	100.0	3	100.0	25	100.0	30	100.0	

Table -4

		HAM-D						Total		P-Value
	MILDLY DEPRESSED		MODERATELY DEPRESSED		SEVERELY DEPRESSED					
	N	%	N	%	N	%	N	%		
FAMILY HISTORY	No	2	25.0	8	53.3	3	42.9	13	43.3	0.507
	Yes	6	75.0	7	46.7	4	57.1	17	56.7	
Total		8	100.0	15	100.0	7	100.0	30	100.0	

From the above table, positive history of alcohol dependence in family is not significantly correlate with severity of depression among the subjects, p-value=0.507.





Graphical representation of correlation of positive family history of alcohol dependence with the severity of depression among the subjects.

Table -5
CORRELATION OF POSITIVE FAMILY HISTORY OF ALCOHOLISM WITH SEVERITY OF THE SUICIDAL INTENT.

		SIQ								Total		P-Value
	Normal		SUICIDAL PREOCCUPATION		SUICIDAL IDEATION		INTENSE SUICIDAL PREOCCUPATION					
	N	%	N	%	N	%	N	%	N	%		
FAMILY HISTORY	No	6	40.0	4	80.0	1	16.7	2	50.0	13	43.3	0.236
	Yes	9	60.0	1	20.0	5	83.3	2	50.0	17	56.7	
Total		15	100.0	5	100.0	6	100.0	4	100.0	30	100.0	

The above table shows that the percentage of positive family history of alcoholism with suicidal intent. Among the study group 56.6% (n=17) had family history of alcoholism.

Table -6A
CORRELATION OF SEVERITY OF ALCOHOL DEPENDENCE SYNDROME WITH SEVERITY OF DEPRESSION(SADQ vs HAM-D)

		HAM-D						Total		P-Value
	MILDLY DEPRESSED		MODERATELY DEPRESSED		SEVERELY DEPRESSED					
	N	%	N	%	N	%	N	%		
SADQ	MEDIUM DEPENDENCE	3	37.5	0	0.0	0	0.0	3	10.0	0.022
	HIGH DEPENDENCE	5	62.5	15	100.0	7	100.0	27	90.0	
Total		8	100.0	15	100.0	7	100.0	30	100.0	

Table -7A

		TASR						Total		P-Value
	LOW RISK		MODERATE RISK		HIGH RISK					
	N	%	N	%	N	%	N	%		
SADQ	MEDIUM DEPENDENCE	3	20.0	0	0.0	0	0.0	3	10.0	0.313
	HIGH DEPENDENCE	12	80.0	12	100.0	3	100.0	27	90.0	
Total		15	100.0	12	100.0	3	100.0	30	100.0	

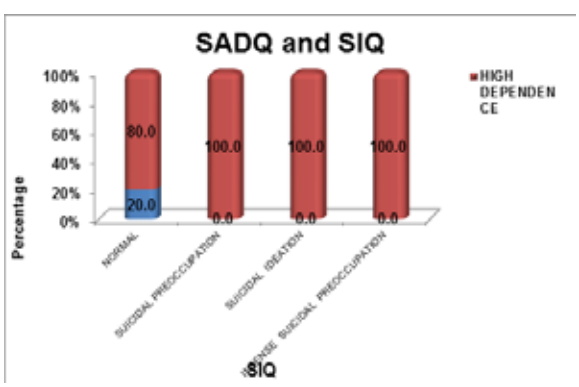
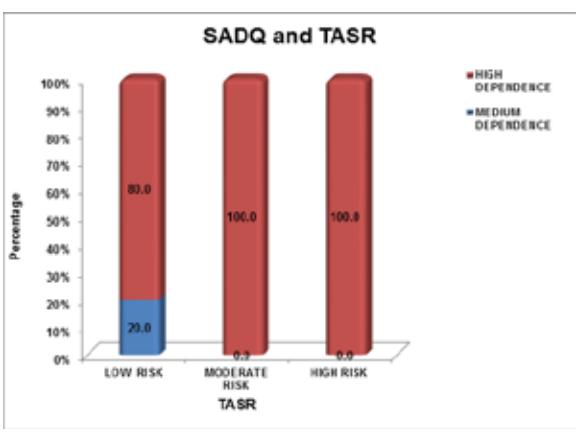


Table -7B
Correlation of severity of alcoholism with severity of risk of suicide:



From the table, it is inferred that persons with high dependence of Alcohol have higher risk of committing suicide.

Table -8A
Correlation of educational level and employment with suicidal intent:

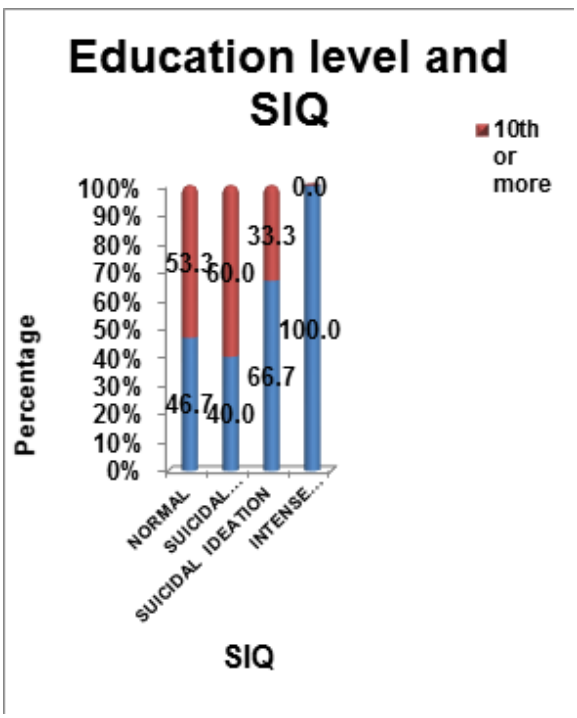
		SIQ								Total		P-Value
	Normal		SUICIDAL PREOCCUPATION		SUICIDAL IDEATION		INTENSE SUICIDAL PREOCCUPATION					
	N	%	N	%	N	%	N	%	N	%		
Education level	Up to 10th std	7	46.7	2	40.0	4	66.7	4	100.0	17	56.7	0.253
	10th or more	8	53.3	3	60.0	2	33.3	0	.0	13	43.3	
Total		15	100.0	5	100.0	6	100.0	4	100.0	30	100.0	
EMPLOYMENT	Employed	2	13.3	3	60.0	0	0.0	0	0.0	5	16.7	0.055
	Unemployed	13	86.7	2	40.0	6	100.0	4	100.0	25	83.3	
Total		15	100.0	5	100.0	6	100.0	4	100.0	30	100.0	

From the above table, it is inferred that persons who studied up to 10th standard are more to have severe dependence in alcoholism and has more percentage of suicidal ideation.

		TASR						Total		P-Value
	LOW RISK		MODERATE RISK		HIGH RISK					
	N	%	N	%	N	%	N	%		
Education level	Up to 10th std	7	46.7	7	58.3	3	100.0	17	56.7	0.319
	10th or more	8	53.3	5	41.7	0	0.0	13	43.3	
Total		15	100.0	12	100.0	3	100.0	30	100.0	
EMPLOYMENT	Employed	2	13.3	3	25.0	0	0.0	5	16.7	0.789
	Unemployed	13	86.7	9	75.0	3	100.0	25	83.3	
Total		15	100.0	12	100.0	3	100.0	30	100.0	

Table -8B
Correlation of educational level and employment with the suicidal risk:

From the above table , we can infer that persons with educational level up to the 10nth standard and who are unemployed for months before the day of admission to the hospital are having the higher risk of suicide.



DISCUSSION

Prevalence of depression in this sample of alcohol dependence patients is 100%, although the intensity of depression varies. This was quantified using scales Hamilton Depression Rating Scale and Hospital Anxiety and Depression Rating Scale , administered to indoor patients at Day 7 of admission.

This figure is higher than the study done by Weissman et al(1980) who reported that depressive symptoms were present in 59% of alcohol dependent males in a study done on 61 alcohol dependent males Hasin et al. have reported that major depressive disorder during sustained abstinence predicts substance dependence relapse.

In the study done by KM. Davidson, For the episode

of drinking which led to admission , a diagnosis of major depression?

was found in the majority of patients (67%) . Once detoxification from

alcohol took place, only the minority (13%) met criteria for major

depression. This co occurrence is at prevalence rate of 16%–68% . Studies have attempted to differentiate between depressed and no depressed alcohol-dependent persons with particular focus on the participant's level

of alcohol dependence, demographic characteristics , or illness- related

variables . It has been shown that depression is more related to

the current alcohol drinking episode than lifetime diagnosis of depression . Depression diagnosed in the current episode of

alcohol dependence normally remits after 2 weeks of detoxification

and abstinence and falls to normal range within 3 weeks

Brown SA et al (1988) used DSM IV diagnostic criteria and

reported that 42% of 191 alcohol dependent persons had depressive symptoms. Herz et al (1990) reported depressive symptoms in only 16% of the alcohol dependent persons according to DSM III. In a study conducted by Martin et al (2001) on 133 Alcohol dependent men , 15% has depressive symptoms. This is in agreement with Schuckit MA et al (1997) who asserted that in the majority of cases, the depressive symptoms remit within four weeks of abstinence due logistic limitations, patients were evaluated on seventh day of admission. In a study done by Boschloo et al, Aspects of negative emotionality were neuroticism, hopelessness, rumination, worry and anxiety sensitivity, whereas aspects of impulsivity included disinhibition, thrill/ adventure –seeking, experience seeking and boredom susceptibility .Depression and alcohol dependence result from same associations with all aspects of negative emotionality, disinhibition and boredom susceptibility as well as specific associations with thrill/adventure seeking and disinhibition. In the study done by Irwin et al , the study Evaluates one aspect of alcoholism with depression by evaluating the incidence of new episodes of major depressive disorders . In the study done by Preuss et al, distinction Between independent and alcohol-induced mood disorders in alcoholics with a history of suicide attempts are present. It is similar to this study, that the alcohol dependent persons with depression have higher risk of committing suicide. In the table 2A , 28.6% persons with severe depression are more prone to have intense suicidal pre-occupation.

OTHER FACTORS AFFECTING DEPRESSION &ALCOHOL DEPENDENCE SYNDROME:

In this study, assessment of family history of alcohol dependent individuals with depression by using the rating scale HAM-D, it was found that 75% who had mild depression had the positive family history of alcoholism.

In a study conducted by Sjoerds et al and veltman DJ et al, the family

history of alcohol dependence not only increases the risk of alcoholism but

also increases the risk of depression. It states family history of alcoholism

affects the neural substrates of patients with mood and anxiety disorders.

It is similar with this study where the prevalence of depression

is coexisting with alcohol dependence in patients with positive family history of alcohol dependence.

SUICIDE:
In this study, 50 % of alcohol dependent patients have suicide risk. 10 % high risk, 40 % low risk. It was also found that 16% had suicide preoccupation, 20% had suicidal ideation, 13% had intense preoccupation. This is similar to the researchers studied 376 patients at an alcohol-dependence treatment program in Germany. They were extensively tested for personality disorders. Results of the testing indicated that 55 percent of those patients had some personality disorder and 25 percent had attempted suicide at least once.

Among those who were depressed (moderate and severely depressed according to HAM D) , more than 50% had suicide ideation and intense suicidal preoccupation. High risk for suicide was found with those suffering from high anxiety and depression as scored by HADS, however this was not statistically significant. this was due to a small sample size.

. This is similar to the study done by -. Khalid et al and kunwar et al reported that A high prevalence of major depression (41.7%) was found for the episode of drinking which led to hospitalization. However, within a few days of detoxification from alcohol, only few of them had depressive symptoms amounting to major depression (17.64%).

A common underlying genetic factor may explain the association of suicidal behavior with aggression. In our study significantly higher number of individuals who had a family history of suicide had more suicidal attempts compared to those who did not. This result was similar to previous studies which found genetic and familial factors contributing to suicide risk. The findings was also consistent with adoption studies reporting genetic risk for suicide (Roy and Segal)

83% of the sample was unemployed. In this study, a significant correlation was to be found between unemployment and depression in patients of alcohol dependence. This is contrary to a study by Louis Appleby which found that the role of unemployment to be overplayed.

Suicide is also said to be more prevalent in the lower socio-

economic class (Kaplan). In our Indian population where nearly three-fourth

of the patients in joint family ,there was no significant difference was found

between suicide attempters and non-attempters in relation to type of family ,

similar to the Indian study by Dhavale et al. While assessing the family history of alcohol dependent patients with the rating scale of HADS, it was found that 98% of alcohol dependent patients have a strong family history of alcoholism and depression.

CONCLUSION

Prevalence of depression in individuals with Alcohol Dependence Syndrome is very high. Therefore, it becomes mandatory for treating physician to look for it.

Severity of Alcohol Dependence Syndrome is highly predictive of the severity of depressive symptoms. The severity of depression is predictive of intensity of suicidal ideation. Other factors like lack of steady employment is a significant risk factor of increased suicidal risk.

To conclude the Alcohol Dependence Syndrome is a multidimensional disorder in which recognition of depressive symptoms and suicidal ideation plays an important role in the holistic care of the patients.

LIMITATIONS

The sample size in the study is small therefore results may not be generalisable to population.

Patients seen only once in longitudinal follow-up could not be done.

Study done in a tertiary care centre and in-patients therefore, only patients with significant medical complications may have been seen.

Distinction between an independent mood disorder and alcohol induced mood disorder not made in the study.

All the patients were seen on seventh day of admission. Some patients may not have recovered from withdrawal.

Other medical illnesses which may contribute to depressive symptoms (Diabetes mellitus, etc.) Not ruled out.

Patients with past history of depression already on treatment with antidepressants not ruled out.

ANNEXURE
CONSENT FORM
I, ……, S/o…… have read the patients' information sheet regarding the study titled " A STUDY OF PREVALENCE AND COMORBIDITY OF DEPRESSION AND SUICIDAL BEHAVIOR IN PERSONS SUFFERING FROM ALCOHOL USE DISORDERS". If I am found suitable for the study by the study investigators, I will participate in the study. I have discussed with study investigators about the purpose of the study, the procedures and the benefits involved. I have been given the opportunity to ask questions, which have been answered to my satisfaction. I understand that any questions that I might have will be answered verbally or if I prefer, with a written statement.

I understand that my participation in this study is voluntary and that I may refuse to participate. If I have any questions concerning my rights as a research subject in this study, I may contact any of the study investigators at any time point.

I understand that as a participant in this study, my identity, medical records and data relating to this research study will be kept confidential, except as required by law.

As I am fully informed of the study, I hereby consent to the procedures to be adopted on me. I have received a signed copy of this Consent form.

Name of the Patient :
Signature : Date :
Name of the PI :
Signature : Date :

INFORMATION TO PARTICIPANTS
Investigator :
Name of the patient :
Title:
A STUDY OF PREVALENCE AND COMORBIDITY OF DEPRESSION AND SUICIDAL BEHAVIOR IN PERSONS SUFFERING FROM ALCOHOL USE DISORDERS

Aim of the study:
Alcohol dependence is commonly prevalent among patients with depression and suicidal behavior. This co morbidity affects the severity of the alcohol use disorders. In this study we compare patients with depression who have alcohol dependence and patients with suicidal behavior who have alcohol dependence.

You are invited to take part in this study. The information in this document is mean to help you decide whether or not to

take part. Please feel free to ask if you have any queries or concerns.

You are being asked to participate in this study being conducted in Sree Balaji Medical College and Hospital, Chennai – 44.

Confidentiality of the information obtained from you

You have the right to confidentiality regarding the privacy of your medical information (personal details, results of physical examinations, investigations, and your medical history). By signing this document, you will be allowing the research team investigators, other study personnel, sponsors, IEC and any person or agency required by law like the Drug Controller General of India to view your data, if required. The information from this study, if published in scientific journals or presented at scientific meetings, will not reveal your identity.

The participation in this research is purely voluntary and you have the right to withdraw from this study at any time without giving any reasons. However, it is advisable that you talk to the research team prior to stopping the treatment.

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