Psychosocial factors associated with repeated hospitalisation in men with alcohol dependence: A hospital based cross sectional study.

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Abstract

Background: Relapse and repeated hospitalisation is common in alcohol dependence syndrome, which is mediated by several biological and psychological factors. This study expired the association between demographic and clinical variables and various psychosocial factors such as family environment, social network, coping skills and perceived stress, between the repeatedly admitted patients and first time admitted patients.

Methods: Structured assessments of demographic and clinical parameters, family functioning, social networks, coping skills and perceived stress were carried out among repeatedly admitted male patients with alcohol dependence (n=30) and compared with first time admitted male patients (n=30).
Results: Patients who are repeatedly admitted were significantly likely to have family history of alcoholism, alcoholism among first degree relatives, past history of delirium tremens, severe alcohol intake, poor social support, poor social network, negative family environment, maladaptive coping strategies and higher perceived stress.
Conclusion: Our study added further evidence in support of the importance of specific psychosocial and clinical factors in relapse and repeated hospitalisation. The study results have clinical, educational , research and policy implications.

Introduction:

Alcoholism is a major public health problem worldwide, India being no exception, were 33% of its population consume alcohol (Gupta et al., 2003). Though there are effective treatment methods available, prevention of relapse and repeated hospitalisation was found to be difficult and challenging. Along with biological factors like dysfunctional brain areas/circuits, changes in neurotransmitters and dysfunctional hypthalamo-pituitory-adrenal axis, psychosocial factors were also found to play a key role in the genesis of relapse (Mattoo et al., 2009) .

In psychosocial model, relapse can be seen as an unfolding process in which resumption of substance use is the last event in a long sequence of maladaptive responses to internal or external stressors (Larimer et al., 1999). Studies had found that negative mood states and other high-risk situations, self-efficacy, coping resources, etc., are singly or jointly predictive of relapse. High risk situations such as negative emotional states, interpersonal conflicts, and social pressures can test the individuals effective coping skills, if found weak, leading to relapse and re-hospitalisation (Stewart, 2008). There are very few studies regarding the role of various psychosocial factors such as coping strategies, perceived stress, family environment and social networks, in relapse and re-hospitalisation among patients with alcohol dependance syndrome.

Therefore in this study we attempted to examine the association of demographic variables, clinical parameters, family environment, social networks, coping strategies and perceived stress with re-hospitalisation among patients with alcohol dependence syndrome.

Materials and Methods

The present study was a hospital based cross sectional study using purposive sampling technique, conducted at S.S. Raju Centre for Addiction Psychiatry, Central institute of Psychiatry, Ranchi. The sample consisted of 30 male patients with multiple admissions and 30 first time admitted male patients, who were diagnosed with Alcohol Dependence Syndrome as per ICD-10-DCR. Those patients with serious physical problems, history of harmful use or dependence on any other substance (except nicotine and caffeine), history of other major psychiatric illness or mental retardation, and not willing to participating the study were excluded.

Patients with diagnosis of alcohol dependence as per ICD-10 (DCR) criteria and fulfilling the inclusion were taken for the study. At first informed consent was taken from each them who were admitted for the first time and patients with repeated hospitalization, after both groups had undergone at least two weeks of detoxification programme at S.S. Raju Centre for addiction psychiatry, C.I.P, Ranchi. Necessary socio-demographic and clinical information were collected by using structured socio-demographic sheet. Severity of Alcohol Dependence Questionnaire (SAD-Q), Family Environment Scale, The Lubben Social Network Scale, COPE Inventory and Perceived stress scale were used to assess psychosocial factors influencing repeated hospitalisation.

Socio demographic and clinical data sheet: Socio-demographic data sheet was used to collect details such as sex, age, education, occupation, monthly income, religion, domicile and family type, and clinical variables like types of substance ,age of onset, pattern of intake, duration of dependence, family history of substance dependence, treatment and hospitalisation history.

Severity of Alcohol Dependence Questionnaire (SAD-Q) (Stockwell et al, 1983): It is a short, self administered 20 item questionnaire designed to measure severity of dependence on alcohol formulated by Edward and Gross (1976). It has 5 subscales with 4 items in each domain. Each item is rated on a four point scale ranging from ' almost never' to 'nearly always' resulting in a corresponding score of 0-3. Thus the total maximum score possible is 60 and minimum is 0. Its test retest reliability is 0.85.

Family Environment Scale (Moos & Moos, 1974): It was originally developed by Moos, and was adapted and standardised in Indian conditions by Joshi and Vyas (1987) in Hindi language. The Hindi version has 79 items, which are answered in a 5 point Likert scale. There are a total of 10 sub scales that are broadly grouped into three dimensions: Relationship , Personal growth and system maintenance. The scale has moderate to high test retest reliability and internal consistency.

The Lubben Social Network Scale (Lubben & Gironda, 2004): The scale is used to assess the level of social support available to the patient. This can help to identify a person who may need assistance or help. The 10 questions are related to family network, friends network, confident relationships, helping others and living arrangements. The score of each item anchor between 0 and 5, in order to allow for equal weighting of the 10 parameters.

COPE Inventory (Carver et al., 1989): It is a multidimensional coping inventory, developed to assess a broad range of coping responses.

Perceived stress scale (Cohen & Williamson, 1988): It is the most commonly used psychological instrument for measuring the perception of stress. Items are designed to tap how unpredictable, uncontrollable and overloaded the respondents find their lives. The scale also includes a number of direct queries about current levels of experienced stress.

Statistical analysis: Data were analyzed with the help of statistical packages for social science (SPSS-16.0), SPSS Inc., 1989-2007. Descriptive statistic was applied on continuous variables of social-demographic data. Chi-Square test was performed on categorical variables of socio-demographic data and clinical variables. Comparison of severity of Alcohol Dependence questionnaire, Social Support Questionnaire, Social Network Scale and Perceived stress scale were done by Mann-Whitney test. Spearman correlation was also used.

Results: Mean age of repeatedly admitted patients was 40.53± 8.32 and the mean age of patients with first admission was 38.97± 7.30. Age at marriage of both the sample population was 26.93 ± 4.19 and 25.60 ± 5.26 respectively. The is no significant difference between mean age of onset of initiation, the mean duration of alcohol dependance and other socio-demographic profile between the groups

The comparison done on categorical variables of clinical characteristics of repeatedly admitted and first time admitted patients shows significant differences in family history of alcoholism, alcoholism among first degree relatives and past history of delirium tremens. No significant differences were found between both groups in terms of Past History of Withdrawal Seizure, Average Alcohol intake and Maximum amount of alcohol intake.

Table 1 shows Comparison of Severity of Alcohol Dependence Questionnaire (SAD-Q), Social Support Questionnaire (SSQ), Lubben Social Network Scale (LSNS) and Perceived Stress Scale (PSS) with repeatedly and first time admitted patients with alcohol dependence syndrome. Significant level($p<0.01$) of difference was seen between the repeatedly

admitted patients and first time admitted patients in their severity of alcohol, social support, social network and in perceived stress.

Table-1: Comparison of Severity of Alcohol Dependence Questionnaire (SAD-Q), Social Support Questionnaire (SSQ), Lubben Social Network Scale (LSNS) and Perceived Stress Scale (PSS) with repeatedly and first time admitted patients with alcohol dependence syndrome

Variables	GROUPS		U	Z	*p*
	Repeatedly Admitted Patients with ADS (n=30) Median (Range)	First Time Admitted Patients with ADS (n=30) Median (Range)			
SAD-Q	43.00(26.0)	21.00(37.0)	21.50	-6.34	**.001***
SSQ	25.50(17.0)	53.00(26.0)	1.00	-6.65	**.001***
LSNS	17.00(15.0)	33.00(24.0)	3.50	-6.61	**.001***
PSS	21.00(12.0)	11.00(12.0)	8.00	-6.55	**.001***

*p is significant at <0.05 level

Table-2 shows the comparison of Family Environment of repeatedly and first time admitted patients with alcohol dependence syndrome. Significant differences (p<0 .01) were found in all the domains of the scale. Cohesion, Expressiveness, Independence, Achievement Orientation, and Intellectual Cultural Orientation, Active Recreational Orientation, Moral Religious Emphasis, Organisation and Control was found to be significantly better in first time admitted group, and Control was found to be more in families of patients with repeated hospitalisation.

Table-2: Comparison of Family Environment of repeatedly and first time admitted patients with alcohol dependence syndrome.

iable	No.	Domains	GROUPS		U	Z	*P*
			Repeatedly Admitted Patients with ADS (n=30) Median (Range)	First Time Admitted Patients with ADS (n=30) Median (Range)			
Family Environment Scale	1	Cohesion	8.50(17.0)	20.50(13.0)	4.50	-6.59	**.001***
	2	Expressiveness	12.00(15.0)	20.50(16.0)	70.00	-5.64	**.001***
	3	Control	20.50(13.0)	10.50(8.0)	0.00	-6.68	**.001***
	4	Independence	12.00(18.0)	18.50(14.0)	117.50	-4.93	**.001***
	5	Achievement Oriented	9.50(17.0)	18.50(15.0)	102.00	-5.16	**.001***

	6	Intellectual Cultural Orientation	14.00(15.0)	18.00(12.0)	140.00	-4.61	**.001***
	7	Active Recreational Orientation	12.00(18.0)	16.50(17.0)	203.00	-3.66	**.001***
	8	Moral Religious Emphasis	16.00(22.0)	18.00(15.0)	278.00	-2.55	**.011***
	9	Organization	12.50(23.0)	18.50(21.0)	228.00	-3.29	**.001***
	10	Control	12.00(24.0)	18.50(10.0)	165.00	-4.23	**.001***

*p is significant at <0.01level

In Table 3 shows the comparison of COPE Inventory with repeatedly and first time admitted patients with alcohol dependence syndrome. Significant differences (p<0 .01) were found in all the domains except in the domains of Denial and Acceptance.

Table-3: Comparison of COPE Inventory with repeatedly and first time admitted patients with alcohol dependence syndrome

Variable	**No.**	**Domains**	**GROUPS**		**U**	**Z**	***p***
			Repeatedly Admitted Patients with ADS (n=30) Median (Range)	**First Time Admitted Patients with ADS (n=30) Median (Range)**			
COPE Inventory	1	Positive Reinterpretation & Growth	5.00(8.0)	13.00(7.0)	3.00	-6.637	**.001***
	2	Mental Disengagement	6.00(4.0)	11.50(9.0)	6.50	-6.601	**.001***
	3	Focus on and venting of emotions	5.00(5.0)	12.00(11.0)	20.00	-6.392	**.001***
	4	Use of Instrumental Social support	5.00(5.0)	12.00(9.0)	7.50	-6.577	**.000**
	5	Active Coping	6.00(5.0)	11.00(11.0)	38.00	-6.124	**.001***
	6	Denial	11.00(7.0)	11.00(12.0)	444.00	-.090	.929
	7	Religious Coping	6.00(5.0)	12.00(9.0)	11.00	-6.518	**.001***
	8	Humor	6.00(5.0)	8.50(12.0)	212.50	-3.551	**.001***
	9	Behavioural Disengagement	6.00(6.0)	12.00(10.0)	12.00	-6.505	**.001***

	10	Restrain	5.00(6.0)	11.00(9.0)	19.50	-6.405	**.001***
	11	Use of Emotional Social Support	6.00(5.0)	12.00(10.0)	28.00	-6.272	**.001***
	12	Substance Use	14.00(6.0)	9.50(7.0)	15.50	-6.466	**.001***
	13	Acceptance	10.00(13.0)	11.00(8.0)	377.00	-1.092	.275
	14	Suppression of Competing Activities	5.50(4.0)	11.00(8.0)	2.00	-6.673	**.001***
	15	Planning	5.50(4.0)	12.00(7.0)	2.50	-6.654	**.001***

*p is significant at <0.01 level

Discussion:

The current study found poor social support, difficult family environment, higher perceived stress and poor coping strategies in repeatedly hospitalised patients when compared with first time admitted patients.

Social support reflects mechanisms by which interpersonal relationship empowers people to overcome adverse effects of stress and it strengthen the capacity to withstand stress and overcome frustration. Consistent with our study results, past studies had also shown poor social support among patients with recurrent relapse. It can be argued that social support enhance beliefs of patients in their ability to facilitate effective coping behaviour through mediation of self effective coping behaviour and less negative affect during time of stress. Similarly the social network of the repeatedly admitted patients was found to be significantly lessor when compared to first time admitted patients, indicating poor social connections in patients with repeated hospitalisation, which is consistent with past studies (Dixit et al., 2015).

The current study found higher perceived stress among repeatedly admitted patients when compared to first time admitted patients. Stress is considered as a major contributor in precipitating relapse in patients with alcohol dependance syndrome. However, a causal relationship between stress and alcohol use is not established till date, as human laboratory studies have not uniformly supported the tension- reduction hypothesis of alcohol use, which posits that people use alcohol to reduce stress. Both discrete, stressful life events and chronic stressors may play a role not only in the development of alcoholism, but also in the relapse of people recovering from abuse. The relationship is probably mediated trough common neurochemical systems, such as the serotonin, dopamine, and opiate peptide systems, as well as the hypothalamic-pituitary-adrenal (HPA) axis (Mattoo et al., 2009) .

In all the domains of Family Environmental Scale there were significant differences found between the two groups, indicating a significantly negative family environment among the families of repeatedly hospitalised patients, which is in consistent with past studies (Sher, 1991). Another study by Bijttebier et al. (2006) also stated that the cohesion and organization are relatively very poor in the family of alcoholic patients. The same study also stated that the conflicts in the family worsen as patient's level of alcoholism worsen. Yet another study also confirms that the development and organization of family gets dysfunctional as the consequences of alcoholism (Steinglass, 1985). These findings are consistent in proving that long history of alcoholism and repeated admissions can further hamper the family environment. The family of repeatedly admitted patients is relatively poor in all aspects of life like intra-familial interaction, daily activities, child rearing, social relationship and finance. There are considerable researches which demonstrate that alcohol run in families (Marshall & Murray, 1992). Progressive years of alcohol intake will have a marked impact on cohesion and expressiveness and more conflict is present in these families and the key aspects of family functioning can also have an impact on long-term outcomes in alcoholism.

The severity of alcoholism and most of the dimensions of family environment like cohesion, independence, achievement orientation, intellectual cultural orientation, active recreational orientation, organization and control were found to be negatively correlated. It has been found in many of the previous studies (Bennett & Wolin, 1990; Beavers & Hampton, 1993; Bowen 1978; Broderick, 1993) that the entire family is affected by alcoholism there exist an emotionless closeness, and all key aspects of family functioning get affected. As these families get affected by prolonged drinking habits of one of its members , the family goes on to live in this dysfunctional life, and this further enables the alcoholic behaviour of the member.

The current study found that those hospitalised multiple times used maladaptive strategies more often when compared to first time admitted patients. In the domains of problem focused coping such as active coping, planning and suppression of competing activities, restraint coping and seeking social support for instrumental reasons repeatedly admitted patients showed poor coping skills. Furthermore, in most of the domains of emotional focused coping such as seeking social support for emotional reasons, positive interpretation of growth and turning to religion repeatedly admitted patients showed significantly poor coping skills. In the sub-domains of less useful or less adaptive coping strategies like focus on and venting of emotions, behavioural disengagement, mental disengagement, alcohol drug disengagement, the current study found more maladaptive coping strategies among repeatedly admitted patients. It has been reported previously that the number and effectiveness of coping strategies among patients are important in determining relapse. Prolonged years of alcoholism has marked impact on the problem focused coping and emotional focused coping. The marked differences which were found in our study with repeatedly admitted and first time admitted patients in their coping may be due to repeated hospitalization and its impact on the after care. The impact of alcoholism and the attitudinal changes in environment might have further aggravated the coping skills of the patients, in particular the patients with long history of alcoholism. The previous studies (Finney et al., 1980; Rosenberg,1983; Vuchinich & Tucker, 1996)

consistently supports that life stressors increase the likelihood of alcohol and drug relapse for substance abusers after addiction treatment and are associated with poorer addiction treatment outcomes. Studies indicate that treatment techniques which foster coping skills, problem-solving skills, and social support play a pivotal role in successful treatment.

Conclusion

Addiction to alcohol is a complex problem determined by multiple factors, including psychological and physiological components. Stress, family environment, social network and coping skills are considered to contribute to the initiation and continuation of AOD use as well as to relapse. Our study results showed significant difference in severity of alcohol use, social support, social network, family environment and in perceived stress between the repeatedly admitted patients and first time admitted patients. The study results have clinical, educational , research and policy implications.

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