ASSESSMENT OF ALCOHOL USE CONTRIBUTING TO RELAPSE AND MAINTENANCE OF ABSTINENCE IN PATIENTS UNDERGOING ALCOHOL DE-ADDICTION AT A TERTIARY CARE CENTRE, HUBLI

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ABSTRACT

BACKGROUND

Alcohol de-addiction is a cornerstone in the treatment of alcohol dependence syndrome. Following de-addiction therapy many patients relapse and only few patients maintain abstinence. The clinical, demographic variables have been reported to play an important role in the dynamics of relapse and abstinence after de-addiction in many studies, but there is no clear cut association between the variables and outcome till date, so the present study was planned.

MATERIALS AND METHODS

Initially, all study subjects in the study were subjected to alcohol detoxification and later to alcohol de-addiction therapy. After de-addiction patients were recalled for evaluation for period of three months. The sociodemographic data and details of clinical variables related to alcohol use were obtained in a pre-structured pro forma prepared in the Department for the purpose of the study. Severity of Alcohol Dependence Questionnaire (SADQ-C) was used in the study to assess the severity of alcohol dependence in the study subjects.

RESULTS

There was no statistical significance result observed in relation to any demographic variables, clinical variables and outcome (relapse/abstinence to alcohol).

CONCLUSION

In this study, no significant association was found between sociodemographic variables, clinical variables and the outcome.

KEYWORDS

Alcohol Dependence, Alcohol Detoxification, Alcohol De-addiction, Alcohol Relapse, Alcohol Abstinence.

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BACKGROUND

The World Health Organization estimates that as of 2010, there were 208 million people with alcoholism worldwide (4.1% of the population over 15 years of age).[1] Alcoholism has directly resulted in 139,000 deaths in 2013.[2] A total of 3.3 million deaths globally (5.9% of all deaths) are believed to be due to alcohol.[3] It often reduces a person's life expectancy by around ten years.[4] The harmful use of alcohol is a global problem which compromises both individual and social development. It also causes harm far beyond the physical and psychological health of the alcoholic. It harms the well-being and health of people around the alcoholic.

Harmful drinking is a major determinant for neuropsychiatric disorders, such as alcohol use disorders and epilepsy and other non-communicable diseases such as cardiovascular disease, cirrhosis of the liver and various cancers. The harmful use of alcohol is also associated with several infectious diseases like HIV/AIDS, tuberculosis and Sexually Transmitted Infections (STIs). The degree of risk for harmful use of alcohol varies with age, sex and other biological characteristics of the consumer. In addition the level of exposure to alcoholic beverages and the setting and context in which the drinking takes place also play a role.[1]

Alcohol de-addiction is a cornerstone in the treatment of alcohol dependence syndrome.

The quantum of alcohol dependence syndrome patients getting admitted in hospital for de-addiction with various complications like cirrhosis of liver, cardiac problems, fractures, seizures, delirium are quite high. Following de-addiction therapy many patients relapse and only a few patients maintain abstinence. Thus, a study was carried out in an attempt to assess the alcohol use related demographic variables and clinical parameters contributing to relapse and maintenance of abstinence in patients undergoing alcohol de-addiction treatment in KIMS, Hubli, Karnataka.

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Aims and Objectives

To assess the alcohol use related demographic variables and clinical parameters contributing to relapse and maintenance of abstinence in patients undergoing alcohol de-addiction treatment in KIMS, Hubli, Karnataka, India.

MATERIALS AND METHODS

The 100 discharged and consecutively consented Alcohol dependence syndrome patients meeting the inclusion criteria were recruited for the study. This was a longitudinal survey in which each patient was followed in OPD. The sample collection started from January 2014, continued until September 2014. Each patient after initial evaluation was followed on monthly basis in OPD for minimum duration of 3 months (to avoid attrition).

Inclusion Criteria-

1. Patients fulfilling the DSM-V diagnostic criteria of Alcohol use disorder.[5]
2. Patients aged between 20 to 50 years.
3. Patients who have been discharged after undergoing alcohol de-addiction therapy in Department of Psychiatry KIMS, Hubli.
4. Patients who have given consent to be part of study.

Exclusion Criteria-

1. Those patients with major physical illnesses, organic brain syndrome or mental retardation and patients with altered sensorium.
2. Those patients with independent psychiatric disorders.
3. Those patients who are not ready for follow up.

RESULTS

Among the 100 subjects of alcohol dependence syndrome satisfying the inclusion criteria, 90 patients regularly attended monthly follow up and 10 patients did not come for monthly follow up in our OPD. Among the 90 patients who regularly attended monthly follow up, 49 patients relapsed and 41 patients maintained abstinence as per the operational definition of the study as shown in Table 1. Overall at the end of 3 months, the total number of patients who relapsed were 56 (49+7) (56%) and the total number of patients who maintained abstinence were 44 (41+3) (44%). Overall at the end of 3 months, the total number of patients who relapsed were 56 (49+7) (56%) and the total number of patients who maintained abstinence were 44 (41+3) (44%).

The study subjects who did not report after 1 month for the review were later contacted through telephone and their status was recorded. Later when they reported for 3-month follow up their status in relation to outcome was updated. For the subjects who did not report for 3-month follow up, intent to treat analysis was done.

In relation to demographic profile and outcome variable (relapse/abstinence) among two groups, there was no significant difference observed in relation to age, sex, sociodemographic profile as shown in Table 2 and Table 3. The result also revealed no significant difference between socioeconomic status and outcome variable (relapse/abstinence) among two groups as shown on Table 4. In total there was no significant difference between demographic profile of patients and outcome variable (relapse/abstinence) among two groups.

In relation to the clinical variables and outcome variables (relapse/abstinence), it was observed that there was no significant difference seen in relation to Age of onset of drinking (years), Duration of drinking (years), Age of onset of dependence (years), Time to Develop Dependence (years), Duration of Dependence (years) and duration of withdrawal symptoms (years) except amount of alcohol consumptions (in quarters) which was found to be statistically significant among two groups as shown in Table 5.

		Frequency	**Percent**
Outcome	Relapse	56	56.%
	Abstinence	44	44%
	Total	**100**	**100%**

Table 1. Outcome of the Subjects Included in the Study

		Outcome			
		Abstinence Maintained		**Relapse**	
		Count	**%**	**Count**	**%**
Age	<30 years	10	22.7%	12	21.4%
	31 to 40 years	22	50.0%	26	46.4%
	>40 years	12	27.3%	18	32.1%
Mean Age		36.45 ± 7.776		36.98 ± 7.485	
		Outcome			
		Relapse		**Abstinence Maintained**	
		Count	**%**	**Count**	**%**
Gender	Male	56	100%	43	97.7%
	Female	0	0	1	2.3%

Table 2. Age and Gender Distribution of the Study Subjects

		Outcome				**P Value**
		Abstinence Maintained		**Relapse**		
		Count	**%**	**Count**	**%**	
Marital status	Married	43	97.7%	52	92.9%	0.267
	Unmarried	1	2.3%	4	7.1%	
Education	Illiterate	5	11.4%	8	14.3%	0.940
	Primary School	16	36.4%	20	35.7%	
	High School	11	25.0%	11	19.6%	

	PUC	6	13.6%	10	17.9%	
	Graduate & above	6	13.6%	7	12.5%	
Residence	Rural	21	47.7%	25	44.6%	0.759
	Urban	23	52.3%	31	55.4%	
Type of Family	Extended Family	4	9.1%	7	12.5%	0.757
	Joint Family	15	34.1%	21	37.5%	
	Nuclear Family	25	56.8%	28	50.0%	
Employed Status	Employed	43	97.7%	55	98.21%	0.8629
	unemployed	1	2.3%	1	1.78%	
Type of work	Heavy physical work	31	70.45%	42	76.36%	0.6303
	Less physical work	12	27.27%	13	23.63%	

Table 3. Sociodemographic Profile of Subjects

As per Modified B G Prasad Socioeconomic Status Classification 2013		**Outcome**			
		Relapse		**Abstinence Maintained**	
		Count	**%**	**Count**	**%**
Income	Level I/ Upper class (Rs. 5156 and above)	26	46.4%	20	45.5%
	Level II/ Upper middle class (Rs. 2578-5155)	21	37.5%	17	38.6%
	Level III/ Middle class (Rs. 773-1546)	8	14.3%	6	13.6%
	Level IV/ Lower middle class (Rs. 904 to 1809)	0	0.0%	0	0.0%
	Level V/ Lower class (Below Rs. 773)	1	1.8%	1	2.3%

Table 4. Association between Outcome and Income, Socioeconomic Status

	Outcome				**P value**
	Relapse		**Abstinence Maintained**		
	Mean	**SD**	**Mean**	**SD**	
Age of onset of drinking (years)	21.27	5.66	22.02	6.45	0.535
Duration of drinking (years)	15.36	8.05	14.89	9.11	0.785
Age of onset of dependence (years)	26.29	5.89	27.43	6.69	0.365
Time to Develop Dependence (years)	5.02	3.67	5.57	4.20	0.486
Duration of Dependence (years)	10.29	7.63	9.30	7.98	0.529
Duration of withdrawal symptoms (years)	7.54	7.12	7.09	7.92	0.769
Amount of alcohol consumptions (in quarters)	2.04	0.76	1.68	0.69	0.015
(SADQ-C)	42.4	8.57	38.5	8.67	0.024

Table 5. Comparison of Clinical Related Variables with Outcome

DISCUSSION

A) Outcome

In this study at the end of 3 months, out of 100 study subjects, 44 (44%) patients had abstained from alcohol and 56 (56%) patients relapsed. The outcome of this study was relatively comparable to other studies. Around 55% (N=33) of patients had positive and 35% (N=21) had negative outcome after one year.[6] At the end of one year, 32.5% of patients could be classified under abstinent and non-problem drinker category. 35% continued to drink but showed improvement in social and occupational functioning. 32.5% remained in the unimproved group.[7] 121 patients out of 209 patients had maintained abstinence at the end of 6 months.[8] The relapse rate at six months after treatment was 53.6% among 249 alcohol abusers at the end of 6 months.[9] 74 (56.9%) patients out of the 130 had not used alcohol for the entire six months as per the followup reports.[10]

B) Sociodemographic Variables

In our study, significant statistical association was not demonstrated between sociodemographic variables (like age, gender, income, socioeconomic status, occupation, educational status, place of residence, employment, type of work and type of family) and outcome. This finding was similar to other studies. None of the pre-treatment variables like sociodemographic variables could differentiate patients with favourable outcome from those with unfavourable outcome.[7] None of the other variables, including years of education, income and employment was associated with remission.[11] There were no differences in the sociodemographic characteristics in the group that remained abstinent and that which relapsed.[10] A significant association has been demonstrated between sociodemographic variables and outcome in different studies. This finding was not replicated in our study. Predictors of worse outcomes were female gender, lower socioeconomic status and one of the predictor of better outcome was a full-time job.[8] Relapsed patients had less education, were less likely to have been employed; female gender and older age were

independent predictors in remission.[6] Age (10–19 years), Hindu religion, currently married status and being employed at present were significant protective factors from increased rate of relapse ($p<0.05$). Higher relapse rate was seen with increasing age, Muslim religion, unmarried population, poor literacy level, current unemployment and patients in nuclear family.[12] Female gender had a predicted negative treatment outcome.[13] The association between sociodemographic variables and outcome was not demonstrable in our study. The results of our study showed that there was no statistically significant relationship between sociodemographic variables and outcome of the study. Similar results were seen in other studies.[7, 11] Contrasting results were seen in study conducted by authors[6,8,10,12,13] where a significant result was seen between sociodemographic variables and outcome.

1. Age

The mean age of the patients in abstinent and the relapsed group were 36.45 ± 7.776 years and 36.98 ± 7.485 years respectively. In our study, no significant association was found between the age of the subjects and the outcome (P value 0.870). This was due to the fact that, relatively same age group individuals were present in both groups (less than 30 years- 21.4% in relapsed and 22.7% in abstinent groups, 31-40 years- 46.4% in relapsed and 22.7% in abstinent groups, more than 40 years- 32.1% in relapsed and 27.3% in abstinent groups). The probable reason may be that, this age group constituted the main working force and bread winner for the family, so any impairment in their health due to alcohol use made the family members worrisome resulting in admission in our hospital.

2. Gender

In our study, all 56 patients in the relapsed group were males and in the abstained patients group out of 44 patients, 43 were male and 1 was female. As the representation of the female subjects in the study population was very less (1%), no significant association was demonstrated between the gender and outcome in our study. This may be due to lesser prevalence of alcohol use in the female population in this region due to cultural barriers compared to western populations. In fact, role deprivation (e.g., loss of role as wife, mother, or worker) may increase a woman's risk for abusing alcohol. Another reason for lesser female patients in our study may be due to under-reporting by the family members, anticipating the impact of alcohol use on the personal life, social life, and marital life of the female patients. Certain studies have reported the unique features of alcohol use in female population. Women who have never married or who are divorced or separated are more likely to drink heavily and experience alcohol-related problems than women who are married or widowed.[14,15] They also embrace a pattern called negative affect drinking (drinking only whenever they are sad and depressed). On the whole, women who drink, consume less alcohol and have fewer alcohol-related problems and dependence symptoms than men,[14,15,16] which might have also resulted in lesser reporting of female alcoholic patients in our hospital.

3. Marital status

In our study, 43 out of 44 abstinent group patients were married and 52 out of 56 relapsed group patients were married. In our study, no significant association was demonstrated between marital status and the outcome (P value 0.267). This may be due to the fact that majority of patients in both abstinent (97.7%) and relapsed (92.9%) groups were married. The common problems reported by the spouse of alcoholic patients in our study were: frequent quarrels, assaults with regard to alcohol use by the patient, coercing for money to drink by the patient, strained marital life, poor attention, care of children, lowering of family income, patient's frequent loans, selling of household articles and immovable property by patient, role change, co-dependence and loss of social reputation. Although marital status might have not played a direct role in the outcome in our study, nevertheless the problems faced by the spouses of patients in both groups probably resulted in admission in our centre .The spouses may have played an indirect role in enhancing the motivation, and might have helped the patient to cope with relapse risk situations in the married patients of the abstinent group. Higher severity of alcohol dependence and poor motivation were associated with relapse in spite of being married.

4. Educational status

In our study, in abstinent groups out of 44 patients, 5 patients were illiterates and 39 patients had different levels of education. In the relapsed group, 8 were illiterates and 48 patients had different levels of education. In our study, statistical significance was not demonstrated between the educational status and the outcome (P value 0.940). This may be due to the fact that majority of the patients in both relapsed (85.7%) and abstinent (88.6%) groups had different levels of education. The relapsed patients with different levels of education, in spite of having informal psycho-education about harmful effects of alcohol on health in our centre, failed to remain abstinent due to poor motivation. In the abstinent group, 21 (47.7%) patients resided in rural area and 23 (47.7%) patients resided in urban area. In the relapsed patients group, 25 (44.6%) patients resided in rural area and 31 (55.4%) patients resided in urban area. In our study, statistical significant association was not demonstrated between the place of residence and outcome. This may be due to the fact that relatively equal proportion of patients in both relapsed and abstinent groups remained in urban and rural areas.

5. Type of family

In the abstinent patients group, 4 (9.1%) patients were from extended family and 15 (34.1%) patients were from joint family and 25 (56.8%) patients were from nuclear family. In the relapsed patients group, 7 (12.5%) patients were from extended family and 28 (50.0%) patients were from joint family, 28(50.0%) patients were from nuclear family. In our

study, no significant association was demonstrated between the type of family and the outcome (P value 0.757). This may be due to the fact that the different type of families were relatively same in both abstinent and relapsed groups. Although type of family might not have played a direct role in the outcome in our study, nevertheless indirectly it might have played a role in providing emotional support to cope with stressful situations in about 19 patients (43.2%) with extended/joint family of 44 abstained patients. While in about 28 patients (50%) out of 56 relapsed patients, their presence in an extended/joint family might have provided them an opportunity to evade from family and financial obligations, probably resulting in relapse.

6. Employed status and type of work

In the relapsed group out of the 55 employed patients, 42 patients were engaged in heavy physical work and 13 patients engaged in less physical work professions.

In the abstinent group out of the 43 employed patients, 31 patients were engaged in heavy physical work and 12 patients were in less physical work professions. In our study, no significant association noted between the type of work and the outcome (P value 0.6303). But indirectly heavy physical work and the resulting body pain, fatigue might have resulted in relapse in about 72.09% relapsed patients. Certain studies have stressed the importance of heavy physical work in relapse. Manual labourers who return to their jobs immediately after treatment resume alcohol consumption to relieve bodily pain after a hard day's work. The guilt that follows may prevent them from seeking help again.[17]

7. Socioeconomic status

This was analysed as per as updated B G Prasad scale 2013. In our study, no significant association was demonstrated between the socioeconomic status and the outcome (P value 0.997). This may be due to the fact that, relatively same proportions of patients in both abstinent and relapsed groups hailed from different socioeconomic status. Some researchers have focused on the importance of need to address the problems of the patients from the low socioeconomic class, who constitute the majority of the patients of alcoholism. These patients of low socioeconomic status are especially likely to suffer from financial stress, and unemployment.[17]

C) Alcohol related clinical variables

In this study, the mean amount of Alcohol consumed in relapsed group was 2.04 ± 0.76 quarters/day and in abstinence group it was 1.68 ± 0.69 quarters/day (at the initial evaluation). This observation was statistically significant (p value 0.001) i.e. the amount of alcohol consumed was higher in relapse group. In our study, the mean Severity of Alcohol Dependence Questionnaire (SADQ-C) score was 42.4 (SD 8.57) in the relapsed patients and in the abstinent patients the mean SADQ–C score was 38.5 (SD 8.17). This was statistically significant i.e. the relapsed patients had higher severity of alcohol dependence (p value 0.024). These findings were also demonstrated by other studies. More than 20 years of excessive alcohol consumption is a predictor of worse outcome.[8] Continued excessive alcohol consumption can lead to the development of dependence that is associated with withdrawal syndrome when alcohol consumption is ceased or substantially reduced. This syndrome comprises physical signs as well as psychological symptoms that contribute to distress and psychological discomfort. For some people the fear of withdrawal symptoms may perpetuate alcohol abuse; moreover, the presence of withdrawal symptoms may contribute to relapse after periods of abstinence.[18]

In this study, other alcohol related clinical variables like age of onset of drinking, duration of drinking (years), age of onset of dependence (years), duration of dependence (years), duration of withdrawal symptoms (years), number of previous abstinence attempts and number of alcohol related hospital admissions were found not significantly associated with outcome. This may be related to exposure to the same sociocultural environments in both groups. These findings were similar to the findings of other studies. None of the pretreatment drinking variables could differentiate the positive and negative outcome groups.[7] None of the variables like age of first intoxication, drinking daily for a week or more, having gone on benders of 2 days or more, quantity of drinking during the period of heaviest drinking and number of criteria of alcohol dependence, was associated with remission.[11] Some researchers have noted a significant association between the drinking variables and outcome. Those who started using alcohol before the age of 18 were more likely to get relapsed.[10] The predictors of negative outcome were the earlier onset of day drinking, development of dependence and diagnosis of dependence. The predictors of the positive outcome were greater average age of problem drinking, greater age at the diagnosis of dependence and fewer days of pathological drinking before seeking treatment.[6] Higher relapse rate was associated with early age of initiation and longer duration of abuse.[12]

CONCLUSION

In this study, no significant association was found between sociodemographic variables, clinical variables and the outcome. The clinical, demographic and psychosocial factors play an important role in the dynamics of relapse and abstinence after de-addiction. Alcohol de-addiction is a cornerstone in the treatment of alcohol dependence syndrome. Alcoholism is a potentially treatable disorder through pharmacotherapy and psychotherapy.

REFERENCES

[1] WHO. Global status report on alcohol and health. World Health Organization 2014: pgs. 8, 51. http://www.who.int/substance_abuse/publications/global_alcohol_report/en/

[2] Naghavi M, Wang H, Lozano R, et al. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013:

a systematic analysis for the Global Burden of Disease Study 2013. Lancet 2015;385(9963):117-171.
[3] World Health Organization. Global status report on alcohol and health. WHO 2014: p. 14. http: //www.who.int/substance_abuse/publications/global_ alcohol_report/msb_gsr_2014_1.pdf?ua=1
[4] Schuckit MA. Recognition and management of withdrawal delirium (delirium tremens). N Engl J Med 2014;371(22):2109-2113.
[5] American Psychiatric Association: diagnostic and statistical manual of mental disorders. 5th edn. Arlington: American Psychiatric Association 2013:490-491.
[6] Kar N, Sengupta S, Sharma P, et al. Predictors of outcome following alcohol deaddiction treatment : a prospective longitudinal study for one year. Indian J Psychiatry 2003;45(3):174-177.
[7] Abraham J, Chandrasekaran R, Chitralekha V. A prospective study of treatment outcome in alcohol dependence from a deaddiction centre in India. Indian J Psychiatry 1997;39(1):18-23.
[8] Aguiar P, Neto D, Lambaz R, et al. Prognostic factors during outpatient treatment for alcohol dependence: cohort study with 6 months of treatment follow-up. Alcohol Alcoholism 2012;47(6):702-710.
[9] Vanderplasschen WOI, Colpaert KAG, Broekaert EKM. Determinants of relapse and re-admission among alcohol abusers after intensive residential treatment. Arch Public Health 2010;67(4):194-211.
[10] Kuria MW. Factors associated with relapse and remission of alcohol dependent persons after community based treatment. Open Journal of Psychiatry 2013;3(2):264-272.
[11] Gilder DA, Lau P, Corey L, et al. Factors associated with remission from alcohol dependence in an American Indian Community Group. Am J Psychiatry 2008;165(9):1172-1178.
[12] Sau M, Mukherjee A, Manna N, et al. Sociodemographic and substance use correlates of repeated relapse among patients presenting for relapse treatment at an addiction treatment center in Kolkata, India. Afr Health Sci 2013;13(3):791-799.
[13] Soyka M, Schmidt P. Outpatient alcoholism treatment--24-month outcome and predictors of outcome. Subst Abuse Treat Prev Policy 2009;4:15.
[14] Wilsnack RW, Cheloha R. Women's roles and problem drinking across the lifespan. Social Problems 1987;34(3):231-248.
[15] Wilsnack RW, Wilsnack SC, Klassen AD. Women's drinking and drinking problems: patterns from a 1981 national survey. Am J Public Health 1984;74(11):1231-1238.
[16] Malin H, Coakley J, Kaelber C. An epidemiologic perspective on alcohol use and abuse in the United States. In: Alcohol Consumption and Related Problems. National Institute on Alcohol Abuse and Alcoholism. Alcohol and Health Monograph No. 1. DHHS Pub. No. (ADM)82-1190. Washington, DC: Supt. of Docs. U.S. Govt Print Off 1982:99-153.
[17] Chandrasekaran R, Sivaprakash B, Chitraleka V. Five years of alcohol de-addiction services in a tertiary care general hospital. Indian J Psychiatry 2001;43(1):58-60.
[18] Becker HC. Alcohol withdrawal: neuroadaptation and sensitization. CNS Spectrums 1999;4(1):38-65.