



Assessment of relationship of psychosocial factors contributing to relapse and maintenance of abstinence in patients undergoing alcohol de-addiction therapy in KIMS, Hubli- A Longitudinal survey

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ABSTRACT

Aim of the study: To assess the alcohol use related psychosocial factors contributing to relapse and maintenance of abstinence in patients undergoing alcohol deaddiction treatment in KIMS, Hubli, Karnataka. **Materials and methods:** Initially all study subjects in the study were subjected to alcohol detoxification and later to alcohol deaddiction therapy. Followed by deaddiction patients were recalled after each month for evaluation for period of three months. The details of psychosocial factors related to alcohol use were obtained in a pre-structured proforma prepared in the Department for the purpose of the study. Statistical analysis of the collected data was done using appropriate tests of significance. **Results:** There was no statistical significance results observed in relation to any psychosocial variables and outcome (relapse/ abstinence to alcohol) except the Homes and Rahe's life stress inventory score which was statistically significant between subjects who had relapse and subjects who had abstinence. **Conclusion:** In this study no significant association was found between psychosocial variables and the outcome (relapse/ abstinence to alcohol).

KEYWORDS : alcohol abstinence, Alcohol relapse, Psychosocial factors, Alcohol deaddiction.

INTRODUCTION

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. An intoxicated person can harm others or put them at risk of traffic accidents or violent behavior, or negatively affect co-workers, relatives, friends or strangers. Thus, the impact of the harmful use of alcohol reaches deep into society.¹

According WHO Global status report on alcohol and health 2014, in India pure alcohol consumption among adults (age above 15 years) in liters per capita per year, during 2010 are as follows: total consumption- 4.3liters per capita per year, recorded consumption- 2.2 liters per capita per year, unrecorded consumption- 2.2liters per capita per year, beer- 6.8liters per capita per year, wine- 0.1liters per capita per year, spirit- 93.1liters per capita per year, others- 0. The projection for the year 2015 is 4.6liters per capita per year.²

Alcohol deaddiction is a corner stone in the treatment of alcohol dependence syndrome. Following deaddiction therapy for many patients relapse and only a few patients maintain abstinence. The psychosocial factors play an important role in the dynamics of relapse and abstinence after deaddiction as reported by many studies. Marlett and Gordon relapse prevention model proposes that relapse precipitating factors fall into two categories: immediate determinants (e.g., high-risk situations, a person's coping skills, outcome expectancies, and the abstinence violation effect) and covert antecedents (e.g., lifestyle imbalances and urges and cravings). Treatment approaches based on this model begin with an assessment of the environmental and emotional characteristics of situations that are potentially associated with relapse (i.e., high-risk situations)³. Alcoholism is a potentially treatable disorder through pharmacotherapy and psychotherapy, but understanding of psychosocial factors in relation to alcohol relapse / abstinence also helps in understanding of dynamics of alcohol syndrome. So a study was conducted to understand the role of, psychosocial factors in the dynamics of relapse and abstinence. The aim of the study was to assess the alcohol use related psychosocial factors contributing to relapse and maintenance of abstinence in patients undergoing alcohol deaddiction treatment in KIMS, Hubli, Karnataka.

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).

I. ETHICAL CLEARANCE

The proposed study protocol was submitted to Institutional review board (IRB), KIMS, Hubli for ethical clearance. After thorough scrutiny of protocol by the IRB committee, ethical clearance was obtained

II. Eligibility Criteria

Inclusion Criteria:

- 1) Patients fulfilling the DSM 5 diagnostic criteria of Alcohol use disorder.⁴
- 2) Patients aged between 20 to 50 years.
- 3) Patients who have been discharged after undergoing alcohol deaddiction 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, patients with altered sensorium.
- 2) Those patients with independent psychiatric disorders.
- 3) Those patients who are not ready for follow up.

Methods of collection of data:

The study population included patients of alcohol use disorder admitted in wards of department of psychiatry, KIMS, Hubli. These patients initially underwent detoxification therapy under the guidance of respective unit heads with supervision by postgraduate students. Detoxification therapy was followed by deaddiction therapy. The detoxification procedure 5-11 consisted of monitoring of blood pressure, pulse rate, respiratory rate, temperature. Essential investigations like complete haemogram, liver functions test, serum electrolytes, renal function test, and if required chest x ray, ECG, EEG, CT-Scan brain were taken. The treatment consisted of intravenous injections of diazepam 20-60mg/day, intramuscular injections of thiamine 200mg / day for 5 days, i.v fluids. This was followed by oral Tablets of Lorazepam 2mg (2-2-2) in a tapering dose and oral B-complex tablets of Thiamine, Pyridoxine, Methcobalamine and Nicotinamide. Medical and neurologist opinion were taken for critical cases.

The patients after undergoing detoxification procedure were subjected to deaddiction therapy. The deaddiction therapy consisted of evaluation of alcohol use related variables such as the patient's duration of alcohol use, functioning, maintaining factors, locus of control and stage of motivation.

The patients without medical or psychiatric contraindication for Disulfiram¹² were prescribed Tablet Disulfiram 250 mg OD after taking the consent. For those patients who had medical or psychiatric contraindication and who refused to give consent for Disulfiram, Anticraving drugs like Acamprosate¹³ or Topiramate¹⁴ were prescribed by the respective unit head. These patients after getting medically and mentally fit were discharged by the respective unit head. They were asked to come for monthly follow up.

Assessment of patient:

The date of assessment was individualized based on the subject's physical conditions. A complete detailed physical examination and detailed interview was conducted by the post graduate student. A written informed consent was taken (ANNEXURE -1) The information obtained was compiled in a specially designed proforma. All cases enrolled were discussed with the Psychiatry professor and guide. This was a longitudinal survey in which each patient was followed in OPD on a monthly basis for about 3 months to determine the outcome (i.e. relapsed/ abstinent). The relapse and abstinence outcome variables were defined as per the operational definition of the study. (The patients maintaining abstinence for a minimum duration of 3 were finally declared as abstinent as per the operational definition of abstinence in the study. The patients who resorted to alcohol use in a dependence pattern for a minimum duration of 1 month were declared relapsed as per the operational definition of the relapse in the study).

All patients were subsequently assessed in detail using standardized structured psychological instruments for study. These instruments were;

A. ALCOHOL ABSTINENCE SELF EFFICACY SCALE- CONFIDENCE NOT TO DRINK (AASES-C), TEMPTATION TO DRINK (AASES-T);¹⁵

To assess the coping strategies in relapse risk situations. This scale was used both during the initial evaluation and during follow up. For the patients who relapsed after initial evaluation, this scale was used during subsequent follow up. For the patients who maintained abstinence for about 3 months after initial evaluation as per the operational definition of this study, this scale was applied at the time of 3rd month follow up.

A. HOMES AND RAHE'S LIFE STRESS INVENTORY SOCIAL READJUSTMENT SCALE (HRLSI);¹⁶⁻²³

To assess the stressful life events. This scale was used during the initial evaluation.

D. MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT (MSPSS)²⁴⁻²⁹

To assess perceived social support. This scale was used during the initial evaluation.

e. DESIRED EFFECTS OF DRINKING (DED);³⁰⁻³¹

To assess the effects the relapsed patients desired from drinking. This scale was used during the follow up only for relapsed patients.

After initial assessment, each patient followed at Psychiatry OPD on monthly basis for a minimum duration of 3 months. During the follow up the following details were assessed and were noted in the pre-structured proforma.

- any history of lapses/ relapses
- Motivation level
- Challenges and stressors faced in the psychosocial environment
- coping strategies

The brief psychotherapeutic interventions like motivational interviewing and also psychoeducation about the health hazards of alcohol were also given.

The patients maintaining abstinence for a minimum duration of 3 were finally declared as abstinent as per the operational definition of abstinence in the study. The patients who resorted to alcohol use in a dependence pattern for a minimum duration of 1 month were declared relapsed as per the operational definition of the relapse in the study. Scales of self efficacy (AASES-C) and temptation to drink (AASES-T) in relapse risk situation were again applied to relapsed, abstained patients. The Desired effects of drinking (DEOD) scale were only applied to relapsed patients.

Statistical Methods:

Data was entered into Microsoft excel data sheet and was analyzed using SPSS 22 version software. Categorical data was represented in the form of Frequencies and proportions. Chi-square was used as test of significance. Continuous data was represented as mean and SD. Independent t test was the test of significance to identify the mean difference between two groups and paired t test was the test of significance for paired data such as admission and at follow-up comparison. P value <0.05 was considered as statistically significant.

RESULTS

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 (**Figure 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%).

Figure 2 shows relation between the psychosocial variables and outcome (abstinence and relapse). In the relapsed patients group, 38(67.9%) patients had family history of alcoholism, whereas in abstinent group the 28(63.6%) patients had family history of alcoholism.

In relation to social support, 22(39.3%) patients had good social support in relapsed group whereas in abstinence group, 16(36.4%) patients had good social support. In relation to family support, 52(92.9%) patients had good family support in relapsed group whereas in the abstinence patients group all the 44 (100%) patients had good family support.

In relation to peer support, 32(57.1%) patients had peer pressure in relapsed group whereas in the abstinence patients group 23 (52.3%) patients had peer pressure. In the relapsed patients group, 29 (51.8%) patients reported undesirable life events whereas in abstinent patients group, 24(54.5%) patients reported undesirable life events. All 56 (100%) patients in the relapsed patients group had some form of personal problems. In the abstinent group all the 44 (100%) patients reported some form of personal problems.

In the relapsed patients group, 20 (35.3%) patients reported family problems whereas in the abstinent patients group, 19(43.2%) patients reported family problems.

Figure 3 shows relationship between various scales used to measure alcoholism and outcome (relapse and abstinence). In the relapsed patients group the mean score of MSPSS was 3.54(S.D.1.33) and in the abstinent group the score was 3.65 for 84 (S.D.1.54). There was no significant association between outcome and MSPSS score i.e. both groups had similar kind of social support (P value 0.481).

In the relapsed patients group the mean score of Homes and Rahe's life stress inventory was 277.05 (S.D. 53.50) and in the abstinent patients group the mean score 300.59 (S.D. 45.58). There was a *significant difference* in the mean Homes and Rahe's life stress inventory score with the outcome i.e. the abstinent patients had higher level of stress compared to the relapsed patients (p

value 0.035).

Desired Effects Of Drinking scale was only used for the relapsed patients at the follow up to know the effects they desired from drinking alcohol. The mean DEOD score was 55.67 (S.D 4.80).

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 (KarNet al.¹⁰). 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 (Abraham J et al.¹¹). 121 patients out of 209 patients had maintained abstinence at the end of 6 months (Aguiar Pet al.¹²). The relapse rate at six months after treatment was 53.6% among 249 alcohol abusers at the end of 6 months (Vanderplasschen et al.¹³). 74 (56.9%) patients out of the 130 had not used alcohol for the entire six months as per the follow up reports. (Kuria MW²³).

B. PSYCHOSOCIAL VARIABLES

In our study psychosocial variables like family history of alcoholism, social support, family support, undesirable life events, personal problems, family problems were not significantly associated with outcome as both relapsed and abstinent groups had relatively similar scores. This finding as reported by researchers shows that, in spite of higher levels of personal problems, family problems, peer pressure the abstinent patient group have used adaptive strategies, positive thinking, higher self-efficacy levels and had higher motivation levels. The relapsed patient group in turn may have used maladaptive strategies, negative thinking, lower self-efficacy levels in relapse risk situations and had lower levels motivation, lessened cognitive vigilance (Mattoo S K et al.³³). Less reliance on drinking to reduce tension was one of the independent predictor in remission (Moos HR and MooBS¹⁴).

Other researchers reported a significant association between psychosocial variables and relapse which was not demonstrable in our study. Negative outcome group had higher psychosocial problem index, family history of alcoholism (Kar N et al.¹⁰). The likelihood of relapse increased with 1.04 times with every increase in the severity of psychological problems at follow-up (Vanderplasschen et al.¹³). Relapsed group had family history of substance use, high risk situations exposure especially negative mood states, external situations and euphoric states and lessened cognitive vigilance, had higher number of undesirable life events (Mattoo S K et al.³³). Relapse precipitants were peer pressure (77.8%), acting out (62.7%), family pressure (20.1%), unemployment (27.5%) (SauMet al.³⁴). Extended family quality at baseline also predicted remission and higher quality friendships and family relationships at 8 years (Humphreys K et al.³⁵).

D. ASSESSMENT INSTRUMENTS

1. ALCOHOL ABSTINENCE SELF EFFICACY SCALE- CONFIDENCE NOT TO DRINK/TEMPTATION TO DRINK (AASES - C/T)

Across the various relapse risk situations majority of the relapsed patients had lower self efficacy and tempted to drink, whereas the abstinent patients had higher level of self efficacy and were not tempted to drink. This difference was statistically significant (p value <0.001). This finding has been replicated in other studies. Patients who had relapsed were significantly more likely to have been exposed to a higher total number of 'high risk' situations, in relapse prevention inventory (RPI) they also had significantly higher mean total scores as well as significantly higher mean scores on 3 high-risk situations viz., negative mood states (P<0.05), external situations and euphoric states (P<0.05) and lessened cognitive vigilance (P<0.01), compared to patients who had remained abstinent. Relapsed patients also had significantly lower (P<0.001) mean total

scores on the CBI (coping behavior inventory) than patients who had remained abstinent (Mattoo S K et al.³³). Patients and their families listed items related to 'reduced cognitive vigilance', reasons pertaining to external situations and euphoric states as well as unpleasant mood states as the common relapse precipitants. There was a high degree of concordance between the patients and their family members regarding beliefs about precipitants of alcoholic relapse (Malhotra S et al.³⁶).

2. MULTI-DIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT (MSPSS)

In this study MSPSS was used to assess the social support. 29 (51.8%) patients in abstinence group and 23 (52.3%) patients in relapsed group had low support (MSPSS mean score 2.33). 25 (44.6%) patients in abstinence group and 17 (38.6%) patients in relapsed group had moderate support (MSPSS mean score 4.66). 2 (3.6%) patients in abstinence group and 6 (9.1%) patients in relapsed group had high support (MSPSS mean score 7). There was no significant association between outcome and MSPSS score. i.e. both the groups had similar kind of social support (P value -0.867). A similar finding was reported in other studies. None of the pretreatment socio-demographic variables could differentiate patients with favorable outcome from those with unfavorable outcome (Abraham J et al.¹²). There were no differences in the socio demographic and other characteristics in the group that remained abstinent and that which relapsed (Kuria MW²³).

3. HOLMES AND RAHE'S STRESS INVENTORY (SOCIAL READJUSTMENT SCALE)

This instrument was used to assess the stress levels. Homes and Rahe's life stress inventory mean score in relapse patients was 277.05 ± 53.5 LFU (Life change units) and in abstained patients was 300.59 ± 45.58 LFU for last 12 months. This was statistically significant, mean the abstained patients had higher level of stress compared to the relapsed group (p value 0.035). About 22 (53.7%) patients in abstinent group and 13 (26.5%) patients in relapsed group had 80% chance of developing a stress related illness. This was statistically significant (P value 0.009) i.e. the abstinent patients had higher vulnerability to develop stress related illnesses. This means abstained patients in spite of higher levels of stress, might have used adaptive strategies, and the relapsed patients relied on drinking to cope the moderate levels of stress. Certain studies have shown association of stress with relapse. Relapsed patients had significantly lower (P<0.001) mean total scores on the CBI (coping behavior inventory) than patients who had remained abstinent (Mattoo S K et al.³³). Less reliance on drinking to reduce tension was one of the independent predictors in remission (Moos HR and MooBS¹⁴).

4. DESIRED EFFECTS OF DRINKING (DEOD)

The findings in subscales of DEOD scale suggest that majority of the relapsed patients were vulnerable to the effects of alcohol across the subscales like Assertion, Drug effects, Mental effects, Negative feelings, Positive feelings, Relief, Self esteem, Social facilitation which made them to relapse. Similar finding was reported by other studies. The relapsed patients had higher mean scores on maladaptive strategies such as negative thinking (P<0.01) and significantly lower mean scores on adaptive strategies such as positive thinking (P<0.001) than the abstinent group. In relapse prevention inventory (RPI) they also had significantly higher mean total scores as well as significantly higher mean scores on 3 high-risk situations viz., negative mood states (P<0.05), external situations and euphoric states (P<0.05) and lessened cognitive vigilance (P<0.01), compared to patients who had remained abstinent (Mattoo S K et al.³³).

Limitations of the study were:

1. The study was conducted in a tertiary care centre so the results of the study can't be generalized to other treatment settings like OPD clinics, residential deaddiction centers.
2. The study would have yielded better results regarding the

dynamics of relapse if the duration of the study had been extended to 6 months or 1 year.

3. Lack of a control group.

4. One of the confounding factor is the study was brief psychotherapeutic interventions. like motivational interviewing. Its role in the outcome has not been clearly demarcated in the study.

CONCLUSION

A. In this study no significant association was found between psychosocial variables and the outcome.

B. Higher scores on Alcohol abstinence questionnaire self-efficacy scale –self efficacy (AASES-C) part and lower scores in temptation to drink part (AASES -T) at follow up was associated with positive outcome (P value <0.001).

C. Abstained patients had higher level of stress compared to the relapsed group (P value 0.035) as suggested in the Holmes and Rahe's stress inventory. Relapsed patients relied more on drinking to cope the moderate levels of stress compared to the abstinent group patients.

FIGURES

Figure 1: Pie diagram showing Outcome in subjects

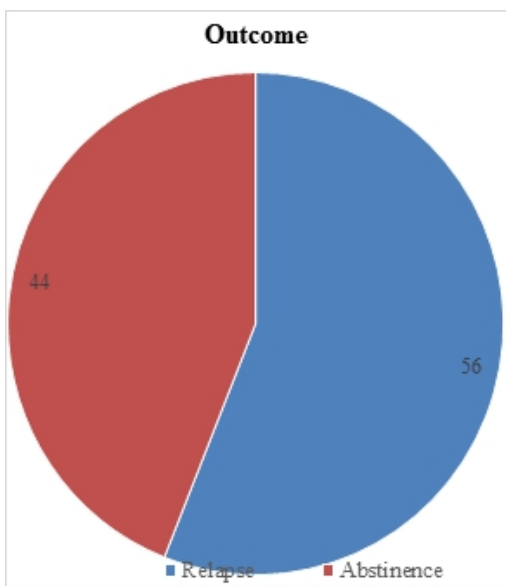


Figure 2- Bar diagram showing Association between Outcome and psychosocial variables

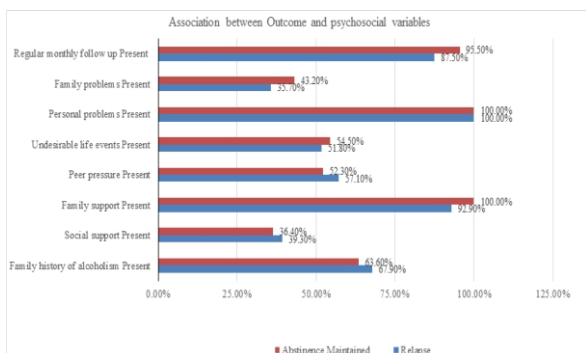
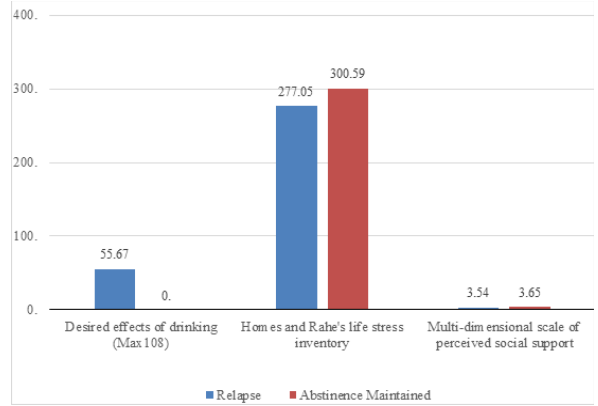


Figure 3- Bar diagram showing comparison of DEOD,HRLSI, MSPSS with outcome



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