

## Predictive Value of Depression and Social Support with Respect to Alcohol Abstinence

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### ABSTRACT

**Context:** Two co-morbid conditions which have been found in high proportions among treatment-seeking alcohol-dependent subjects are depression and low social support. **Aim:** We attempted to study both the factors simultaneously in the setting of Alcoholics Anonymous centers in Mumbai. The study intends to understand (1) if pre-existing depression affected the probability of a person abstaining from alcohol and (2) if social support affected the probability of a person abstaining from alcohol. A thorough review of the existing literature was done before initiating the study. **Materials and Methods:** A single-observer, cross-sectional study was conducted. Subjects with a history of alcohol dependence were included. However, those with other substances abuse and those with a history of anti-depressant usage were excluded. Questionnaires were administered. The Hamilton Depression Scale assessed depression. Similarly, social support was assessed by Social Provisions Scale by Weiss. **Results:** According to this study depression does not affect alcohol abstinence as the  $\chi^2$  test shows an insignificant result. Social support also showed a negative correlation with alcohol abstinence. **Conclusion:** This result is consistent with the findings of other studies such as Davidson *et al.* (1998). However it is not consistent with the results of the studies having a longer follow-up period. The study had some limitations primarily due to time constraints, the main one being that this study would reveal more significant results if done as a longitudinal study as opposed to a cross-sectional study. Also while interacting with subjects in a group like Alcoholics Anonymous it is important to gain the confidence of the group before obtaining confidence of the individual.

**Key words:** Abstinence, alcohol, depression, predictive value, social support


### INTRODUCTION

Substance dependence is defined by diagnostic and statistical manual of mental disorders-IV (DSM-IV) as “a cluster of cognitive, behavioral and physiological symptoms indicating that the individual continues use

of the substance despite substance-related problems.” Physiological dependence of alcohol is indicated by evidence of tolerance or symptoms of withdrawal.

As a disease, alcoholism is rampant in our country and has unfortunate complications and consequences. Two co-morbid conditions which have been found in increased proportions among treatment-seeking alcohol-dependent subjects are psychiatric comorbidity (particularly, anxiety disorders and/or depression)<sup>[1]</sup> and low social support. The former is a psychological disorder, whereas the latter is a social consequence.

Depression is characterized by a pervasive low mood, and loss of interest in usual and pleasurable activities.

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In alcoholics, consumption of alcohol itself may cause or worsen existing depression.

On the other hand, social support enables an individual to function in his surroundings in an acceptable way after counteracting environmental, social and mental stresses. The fact of having a spouse, children, friends or belonging to various organizations becomes a determinant of social support.<sup>[2]</sup>

As they are both relatively immediate consequences, their role in determining outcome of treatment for alcoholism is significant. Although studies have been carried out in the past, the results have not been consistent or definitive. Especially, as far as depression is concerned, its relevance in determining drinking outcome for individuals remains unclear.<sup>[3]</sup>

As alcoholism is a disease, which a significantly high proportion of Indians suffer from, and as it not only has physiological effects but also has social ramifications, this is an important issue.

This study intends to:

1. Understand if a correlation exists between pre-existing, underlying depression and occurrence of alcohol abstinence and
2. Learn whether social support affects the probability of a person abstaining from alcohol.

## MATERIALS AND METHODS

A single-observer, cross-sectional study was carried out.

The study was carried out at two Alcoholics Anonymous centers in Mumbai. These centers were chosen as they offered diversity of people as well as being a primarily social support group, which aided the study of this factor. It was conducted in accordance with the Declaration of Helsinki for Human Research and after obtaining informed consent of the subjects.

Subjects with a history of alcohol dependence were included. However, those who suffered from any other drug dependence and those on antidepressant medication were excluded from the study.

A target sample size of 50 was selected.

### Materials

Depression was assessed by the Hamilton Depression Scale. Subjects with a score of 17 or more were categorized as depressed. Similarly, social support was assessed by administering Social Provisions Scale which was devised by Weiss. Those with a score of less than 11 were categorized as having inadequate social support.

### Methods

Permission was obtained from the Institutional Ethics Committee to carry out the study.

After approaching the Chairperson of an Alcoholics Anonymous group, we attempted to gain the confidence of the members. This involved sitting for a few sessions and familiarizing oneself with the environment and the people. Subsequent to this only, the subjects were approached. Although around 57 people were interviewed, 7 did not come again to the center, and hence could not be followed up. Thus, a sample size of 50 was used. The exact procedure was as follows. After obtaining written consent, the two scales were administered to the subjects. A month later, these individuals were approached again to note down whether they had discontinued alcohol use. This data were analyzed in the following way:

- i. A correlation between depression and alcohol abstinence was obtained.
- ii. A correlation between social support and alcohol abstinence was obtained.

Other incidental parameters such as age, social status and frequency of alcohol consumption were also assessed.

### Data analysis

This was done using the  $\chi^2$  test.

## RESULTS

$\chi^2$  test was applied to evaluate the results from the subjects. Out of 50 subjects, 24 had abstained and 26 had not abstained after 1 month of the first interview. Table 1 presents the demographics of the study subjects

Alcohol abstinence with respect to depression was first evaluated. The hypothesis was that depression leads to decreased incidence of abstinence.

Out of these, 30 had been depressed and 20 were not depressed. Nine out of those who had abstained were not depressed. Also, 11 out of those who had not abstained were not depressed. On application of  $\chi^2$  test and data analysis, the observed value was 3.84 while the calculated (expected) value was 0.12 ( $P > 0.05$ ), and thus the result was not significant. Therefore, our hypothesis is false.

Hence, alcohol abstinence is not affected by pre-existing depression.

Next, alcohol abstinence with respect to social support was evaluated. The hypothesis was that social support leads to increased incidence of abstinence.

Out of the 50 subjects, 21 had adequate social support and 29 had inadequate social support. Fourteen out of those who abstained had inadequate social support, whereas 15 of those who did not abstain had inadequate social support. Data analysis showed that the observed value was 3.84 and the expected value was 0.002. Here as well,  $P > 0.05$  leading to an insignificant result. Thus, our hypothesis is false. Hence, alcohol abstinence is not affected by adequacy of social support. The results are presented in Tables 2 and 3.

## DISCUSSION

According to this study, depression does not affect alcohol abstinence as the  $\chi^2$  test shows an insignificant result. It negates the first hypothesis. This result is consistent with the findings of other studies such as Davidson *et al.*<sup>[4]</sup> It is also to a certain extent consistent with the findings of LaBounty,<sup>[5]</sup> but that study involved anxiety symptoms and not necessarily depression. However, more significantly, it differs from the findings of the study by Driessen *et al.*<sup>[6]</sup> The discrepancy may be present due to the fact that this study had very short follow-up period, i.e. 1 month, whereas the other studies had longer follow-up periods. Also, most of these studies have determined the period for which the subject can remain abstinent, whereas this study has determined whether the subject abstains or not. Moreover, withdrawal symptoms might have interfered with the results of this study.

Although throughout the study the discussion has revolved around alcohol dependence and subsequent withdrawal causing depression and anxiety symptoms, no single neurobiological mechanism has been able to account for these pathologies. A study,<sup>[7]</sup> however, claims to have proved that a reduction in proliferating cell nuclear antigen and doublecortin immunoreactivity in the dentate gyrus of the hippocampus might be responsible.

As far as social support is concerned, which shows a negative correlation with abstinence, the result does not comply with that of Bargiel-Matusiewicz and Ziebaczevska<sup>[2]</sup> which showed a positive correlation. However, the difference may be present because the subjects were those being treated in a hospital for alcohol abstinence syndrome as opposed to our subjects. Also, it correlates symptoms of withdrawal and social support. Studies such as that of Dobkin *et al.*<sup>[8]</sup> showed social support to be only a modest predictor of reduction in intake. Thus, our result seems to side with this result more. This study involved outpatients, and hence is similar to our setup.

**Table 1: Demographics of the study subjects**

	Total (N)=50
Age (years)	
20–29	4
30–39	12
40–49	15
50–59	12
60–69	7
Education	
<XII pass	18
XII pass	8
Diploma	4
Graduate	18
Postgraduate	2
Occupation	
Unemployed	1
Unskilled	11
Skilled	38
Marital status	
Unmarried	10
Married	5
Divorced	1
Married with children	34

**Table 2: Alcohol abstinence with respect to depression**

	Not depressed	Depressed	Total
Abstained	9	15	24
Not abstained	11	15	26
Total	20	30	50

Data analysis: Chi cal: 0.120192; Chi tab: 3.84; Result: Not significant

**Table 3: Alcohol abstinence with respect to social support**

	Adequate social support	Inadequate social support	Total
Abstained	10	14	24
Not abstained	11	15	26
Total	21	29	50

Data analysis: Chi cal: 0.002105; Chi tab: 3.84; Result: Not significant

Our study showed that in patients with the issue of alcohol dependence who are receiving treatment only in the form of group therapy (Alcoholics Anonymous), abstinence might not take place irrespective of the social support or co-morbidity (in this case, depression) the individual might have.

The result about social support and the abstinence might be varying from the previous studies due to the fact that the questions of the social provisions scale have a number of local dimensions primarily due to cultural differences. This is supported by the fact that different types of social support appear to be beneficial for different people.<sup>[9,10]</sup> Also, interpretation of social support differs from person to person.

In the elderly, the abstinence may be affected by factors other than degree of social support as there are certain stressors which may be related to the avoidance of alcohol. One of these important factors is religiosity which is seen in a greater degree in the elderly.<sup>[11]</sup>

It is imperative to note that social support is an outcome of interpersonal transactions and not really an intervention which can be mechanically implemented.<sup>[12]</sup>

One of the major limitations of this study was that it was conducted as a cross-sectional one. A greater degree of accuracy could be brought in if it was done as a longitudinal study with more females being interviewed. According to some, it is a possibility that alcoholics may be more willing to admit relapse or failure to abstain in a mail survey than face-to-face.<sup>[13]</sup>

Further implications of the study could be, as mentioned earlier, that a longer follow-up period could yield more accurate results as also regular and increased number of follow-ups. Secondly, by making sure that the withdrawal symptoms have been treated, frequency of relapses can be studied. Thirdly, using the same experimental design, individuals subjected to pharmacological treatment can be studied. Another important point that should be kept in mind is that alcohol itself leads to co-morbid depression. Also, other factors such as age, gender, occupation, education, social status, and so on can be studied in detail with respect to abstinence. Yet, it must be noted that when associating social support with health outcomes, timing and match of social support to needs may be more important than the above-mentioned factors.

For confounding variables, multivariate analysis should be used.

One of the conclusions we drew while interacting with the subjects was that in an experimental design such as this, it is necessary to obtain confidence of the group before obtaining confidence of the individual. Such social support groups generally have individuals who are wary of studies involving their input.

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