SUMMARY & CONCLUSIONS
Present study sought to investigate the efficacy of a multimodal behavioral treatment program in the management of alcohol dependence. This study was conducted at the behaviour therapy and Biofeedback unit, Department of Clinical Psychology, NIMHANS, Bangalore.

Problems investigated in the present study were:
1. To find out the efficacy of a multimodal behavioral treatment program consisting of techniques viz., alcohol education, faradic aversion therapy, covert sensitization, social skills training and behavioral counseling in alcohol dependence;
2. To assess the locus of control in individuals with alcohol dependence and to find out its relationship with therapeutic outcome.
3. To assess the personality of alcohol dependent individuals and to find out its relationship with therapeutic outcome.
4. To assess the degree of motivation for taking alcohol in alcohol dependent individuals and to find out its relationship with therapeutic outcome.

50 literate males with a diagnosis of alcohol dependence (ICD-9, 303; WHO, 1978), above 20 years of age,
were taken up for the present study. Of these, 20 clients dropped out; Clients with evidence of organic brain syndrome, other psychiatric disorders and major systemic disorders were excluded. Clients with history of previous treatment for alcoholism were also excluded from the present study.

Tools Used:

1. Alcoholism history proforma (developed by the investigator);
2. Drinking related locus of control (DRIE) scale (Keyson and Janda, 1972);
3. California Test of personality (Form-AA) (Thorpe, Clark and Tiegs, 1953);
4. Rating scale to assess motivation for taking alcohol; (Developed by the Investigator); and
5. Outcome/follow-up evaluation proforma (developed by the investigator).

Procedure:

During pilot phase, tools such as Alcoholism history proforma, Rating scale to assess motivation for taking alcohol and outcome/follow-up evaluation proforma were developed. Of total 112 cases referred to the behavioral treatment program, 50 (44%) could be taken up for the present study. Other 62 (55%) cases could not be taken up for
various reasons such as presence of associated physical/psychiatric problems, poor motivation, not being able to come for therapy and poor comprehension.

After selection of clients based on the inclusion and exclusion criteria, tools 1-4 were administered in the initial assessment phase. Following of this, a Behavioral treatment program was administered consisting of 1. alcohol education (2 sessions), 2. Faradic aversion therapy (15 sessions); 3. Faradic aversion therapy combined with covert sensitization (15 sessions); 4. Social skills training (4 sessions); and 5. Behavioral counseling to significant others (3 sessions). Outcome assessment was done using tool-5, prior to termination of therapy.

Each client was advised to come for follow-up once a month for a minimum period of 6 months. At each follow-up tool-5 was administered. During follow-up some clients were given booster sessions which consisted of one session of faradic aversion therapy combined with covert sensitization.

Results:

Treatment completers (n = 30) were followed up for a duration of 30-409 days. During this time, 12 (40%) clients were found to be totally abstinent from drinks; 5 clients
(16.67%) were found to have improved but had drinks once; 4 clients (13.3%) improved but had drinks 2-4 times; 3 clients (10.00%) were found to be drinking frequently but at a reduced rate compared to their baseline; 4 cases (13.33%) were found to have had failure. Two clients (6.67%) lost to follow-up.

These treatment completers were classified into three groups to further analyze data on other variables.

Group-I (n = 12) consisted of clients who were totally abstinent (mean total abstinence = 278 days; mean abstinence following treatment termination = 222.08 days). Group-II (n = 9) consisted of clients who had improved but had drinks 1-4 times (mean total abstinence = 173.11 days; mean abstinence following termination = 108.56 days). Group-III (n = 7) consisted of clients who were drinking frequently/clients who had relapse (mean total abstinence = 94 days; mean abstinence after treatment termination = 67.53 days). Clients who lost to follow-up (n = 2) were not included into the above groups.

Differences between treatment completers and drop-outs:
1. Clinical Characteristics:

Treatment completers (mean age = 37.33 years) were found to be significantly (p<0.02) older than drop-outs (mean age = 31.90 years). Treatment completers also had
significantly longer duration of drinking compared to drop-outs (16.16 years and 12.50 years, respectively) \((p<0.05)\). Treatment completers had significantly lower drinking related problems compared to the drop-outs \((p<0.05)\). Treatment completers also had significantly better interpersonal adjustment compared to drop-outs \((p<0.01)\).

2. Drinking related locus of control:

On the drinking related locus of control scale, treatment completers were found to have significantly more internal locus of control compared to drop-outs \((p<0.05)\).

3. Personality:

On the California test of Personality, significant differences were seen among treatment completers and drop-outs on various areas such as self-reliance \((p<0.01)\); sense of personal worth \((p<0.05)\); sense of personal freedom \((p<0.01)\); social standards \((p<0.01)\); social skills \((p<0.01)\); antisocial tendencies \((p<0.01)\) and family relations \((p<0.01)\). Significant difference was also seen on the personal adjustment \((p<0.01)\), social adjustment \((p<0.01)\) and total adjustment \((p<0.01)\) scales (Table-26).

4. Motivation for taking alcohol:

Treatment completers and drop-outs differed significantly on the psychological (negative) aspect of motivation for
taking alcohol; unlike the completers, drop-outs used to drink to avoid negative psychological events \((p<0.05)\) (Table-32).

**Intragroup differences among treatment completers:**

1) **Clinical characteristics:**

The three outcome groups did not differ significantly on the age. However, a trend was seen for the Group-I clients to be older than the other two groups. Outcome groups did not differ on the clinical variables such as age of onset, and duration of drinking; a trend for longer duration of drinking, daily drinking and high tolerance among Group-III clients compared to other two groups was observed.

2. **Drinking related locus of control:**

Outcome groups among treatment completers did not differ significantly on drinking related locus of control scores. However, there is a trend for higher total score, and scores on intrapersonal control factor and general control factor among Group-I clients compared to other two groups.

3. **Personality :**

Group-I clients were found to have significantly lesser "withdrawing tendencies" compared to Group-III clients \((p<0.02)\) (Table-27). Antisocial tendencies were found to be significantly lower among Group-I clients compared to Group-II \((p<0.05)\) and Group-III \((p<0.02)\) clients (Table-28). Group-
I clients scored significantly higher on the community relations compared to Group-III clients (p<0.02) (Table-29). Overall score on the personal adjustment was found to be higher among Group-I clients compared to Group-II clients (p<0.05) (Table-30). Total adjustment score was also found to be significantly higher among Group-I clients than Group-III clients (p<0.05) (Table-31).

4. Motivation for taking alcohol:

No significant difference was seen among treatment completers on the motivation for taking alcohol. However, results indicate a higher degree of motivation for taking alcohol among Group-I clients compared to other two groups on physical, psychological (negative), social and occupational areas.

The above findings satisfy the major objectives of the present study, which has important clinical implications.

Limitations of the present study:

The present study had certain limitations. These include:

1. Small sample size:

In the present study, sample taken for the therapeutic program was small. This is one of the limitations, as generalization of findings may not be possible.
2. Comparison group:

In general, therapeutic studies are conducted comparing the experimental group with another treatment group or with a placebo group or with a no treatment control group. This would increase the validity of findings. In the present study, control group or comparison treatment group could not be taken up, though initially planned, due to the practical constraints and also this study was a time bound project.

3. Follow-up evaluation:

In the therapeutic research studies, specifically with such conditions as alcohol dependence, a long term follow-up would be essential in order to assess the outcome and to find out the efficacy of a therapeutic program. But in the present study, clients could not be followed-up for a longer duration than what is reported because it was a time-bound research program.

4. Assessment of drop-outs:

Detailed assessment of drop-outs would provide wealth of information about reasons for their dropping out of the treatment program and also it would help in finding out their clinical status, consequent to dropping out prematurely. Assessment by home visits would be of much use. In the
present study, home visits could not be made due to practical constraints.

5. Lack of standardised tools:

In the Indian context, no standardised tools were available to assess various aspects of alcoholism. Hence in the present study, it was attempted to develop tools and were used. Using standardised tools would have increased the validity of findings of the present study.

Suggestions for future research:

1. Comparison with other modes of treatment:

   Since the therapeutic program was found useful in dealing with alcoholism, it would be worthwhile to investigate whether this type of treatment program is more efficacious compared to a pharmacological mode of treatment, or in combination with a pharmacotherapy. Hence it would be useful to compare this treatment program with pharmacotherapy alone and pharmacotherapy combined with the multimodal behavioural treatment program to find out the relative efficacy of this program.

2. Using a control group:

   It would also be worthwhile to compare the treatment group with a no-treatment control group (i.e., waiting list group or clients who refuse treatment) to investigate the outcome and to ascertain the utility of such treatment
programs.

3. Long-term follow-up:

It would be useful to assess the outcome with longer follow-up periods in order to provide insight into what would happen to these clients over long periods following therapy.

4. Follow-up of drop-outs:

A considerable number of clients dropped out from the present study at various levels of treatment; it would be useful to contact these clients through home visits, to find out the reasons for dropping out and to find out their clinical status.

5. Therapy with relapsed alcoholics:

In the present study, alcoholics with no previous exposure to treatment were included. Clients who had previous treatment failures were not taken up. Efficacy of the treatment program with clients exclusively with treatment failures can also be tried out.

6. Length of treatment program:

Though various aspects have been dealt with in the present study, it may be difficult to attend to such programs for certain clients. Hence programs based on similar paradigm, which can be administered in a shorter duration can be developed and can be compared to find out the cost-
effectiveness.

7. Family involvement:

In the therapeutic program forms an important aspect. Hence behavioural family therapeutic methods should also be tried, which would contribute towards establishing primary and secondary prophylaxis.

8. Therapy with drop-outs:

In the present study, it was found that alcoholics who drop-out had certain personality characteristics. Hence it is essential to develop specific treatment programs which can deal with the personality aspects, so that it would be useful in clients with these specific personality characteristics and also to reduce the drop-out rate from treatment programs.


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