Chapter III

METHOD

Sample

Tools

Procedure

Research Design

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METHOD

Present study is designed to explore the efficacy of AA group membership and practice of relaxation techniques in the management of stress and maladjustment among alcoholics.

SAMPLE

Sample of the present study consisted of male alcoholic patients who were admitted to various de-addiction centres in Kollam and Pathanamthitta districts of Kerala state. It can be considered as a purposive incidental sample. Total sample arrived was 166. Their age ranged from 26 to 53 years (mean 34, SD 12.5). All the subjects belonged to middle class socioeconomic status and had completed high school education. Duration of alcohol consumption ranged from 4 to 23 years (mean = 14.5, SD = 9.6). Out of 166 subjects, 147 were married and were living with family. 11 of them were unmarried, 6 were divorcees and the rest 2 were widowers. All subjects were either employed or looking after their own business. Monthly income of the subjects ranged from 1500 to 5000 rupees.

Table 1:3 Sample Characteristics

<table>
<thead>
<tr>
<th>Group</th>
<th>Exp.Group 1</th>
<th>Exp.Group 2</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>60</td>
<td>60</td>
<td>46</td>
</tr>
<tr>
<td>Mean Age</td>
<td>32.6</td>
<td>36.2</td>
<td>32.8</td>
</tr>
<tr>
<td>Mean duration of alcoholism</td>
<td>16.8</td>
<td>12.4</td>
<td>14.2</td>
</tr>
<tr>
<td>Mean Monthly Income</td>
<td>Rs. 1850</td>
<td>Rs. 1600</td>
<td>Rs. 1700</td>
</tr>
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</table>
Exclusion Criteria

Subjects falling under any of the following categories were not included in the sample.

1. Ss with previous history of de-addiction treatment and relapse.

2. Ss with known psychiatric neurological complaints and who were on medicines.

3. Ss with history of multiple addiction.

4. Ss who were diagnosed as having antisocial personality.

TOOLS

1. HARICHANDRAN'S STRESS INVENTORY

HSI, Developed by the present investigator was used to assess the
Stress of individual subjects. HSI consists of 66 items on a 5 point scale. Details regarding the development of the inventory is presented below.

**Development of Stress inventory**

**Conceptualizing ‘stress’**

Stress often has a negative connotation. Failure, illnesses, distress are often marked as stress. Stress can also be a result of factors like job promotion, transfers, first love and the like. Ivancevich and Matteson (1980) defined stress as an adaptive response mediated by individual characteristics or psychological process, that is a consequence of any internal action, situation or event that places special physical or psychological demands upon the person. Hans Selye's (1974) pioneering work shed light on stress, and introduced the concept of stress into scientific circle. Selye defined stress as “anything which causes alteration of psychological homeostasis process”. He explains the process of body breakdown with the theory called general adaptation syndrome (GAS). Symptoms of stress can occur at any one of the three stages in this syndrome: alarm, resistance and exhaustion. These three form the biological stress syndrome. In the initial, alarm stage, body responds to the stressors by mobilizing its differences to deal with the threat. The stage of resistance begins as the body fights back. In the stage of exhaustion, the body no longer can standup and fight. Different people spend varied time in each of these stages.

As seen above, different psychologists have given different definitions to stress. Bourne and Ekstrand (1982) define stress as “any state
during which the body tends to mobilize its resources and during which it utilises more energy that originally would produce.” According to Shanmugham (1981) stress is any condition that strains the coping capacities of the person.

Stress can also lead to physical disorders because the internal body system changes in order to cope with stress. Some physical disorders have short term effect such as an upset of stomach and others have longer term effects such as stomach ulcer. Stress over a prolonged time also leads to degenerative disease of heart, kidneys, blood vessels and other parts of the body. Researches have revealed certain personality variables which makes the individual to be more vulnerable to stress. Certain occupations were also found offering more stress. Lachman (1983) has cited examples of experiencing higher work stress by nurses in intensive care units as compared to those on general duty. Dharmangadan (1988) reported that policemen score significantly higher on stress than other occupational groups. Irrespective of the wide research attacks and theoretical contemplation, the field of stress lacks an integrative frame work which can explain the majority of research result in a logical and theoretical manner (Cooper, 1983).

Several studies have attempted to identity and explore different areas and dimensions of stress. (Pestonjee, 1992, Balagangadharan and Bhagavathy, 1997). Most widely used instruments to assess stress include Schedule of Recent Experiences (Holmes and Rahe, 1967) Personal Stress Assessment Inventory (Kindler, 1981) and Life Experience Survey (Sarason et al.1979).

Different methodological issues in stress assessment are discussed in Rabkin and Siruening (1986). Sarason et al. (1978) has concluded that a
measure of life stress should possess three characteristics, a) it should include a list of events experienced by the population being investigated b) it should allow rating by respondent themselves c) it should allow for individualized rating of the personal impact of the events experienced.

Based on the writing of James (1982) Sutherland and Cooper (1990) and Pohorecky (1991) the investigator identified 8 areas of stress which measures the global stress of the individual subject.

1. **Stress as a predisposition:** The concept of viewing stress as a predisposition evolved over many years in response to experimental findings, clinical observation, theory formulation and prospective validation. Friedman and Roseman (1974) Observed a pattern of behaviour particularly in young coronary patients, which later came to be known as Type A Behaviour. Type A people are those who are engaged in a relatively chronic struggle to obtain more and more in shorter time.

2. **Source of stress in family:** House can be a potential source of stress. Both regular and unexpected situations demand adaptive and coping style of the individual. Interpersonal relationships, marriage, communication barriers, unexpected incidents like shifting of the residence, illness or bereavement of a family member adds stress to persons.

3. **Source stress in occupation:** Occupation is another potential source of stress. Regular situations like taking up a risky job, which is against the interest, working for low wages, insecurity of job, lack of appraisal from
the employer, receiving contradictory directions from higher authorities are stressful to any individual. Along with these, loss of employment, delayed payments and strained interpersonal relations among the colleagues also cause stress.

4. **Subjective assessment of situations:** Individual's subjective assessment about a situation is important in labelling a situation as stressful. A situation which is highly stressful for a person, for example a transfer in job, may be viewed as an opportunity to meet new people and see new places by another.

5. **Somatic outcomes of stress:** Somatic outcomes like migraine headache, angina, loss of appetite, constipation, respiratory problems, excessive sweating are often regarded as indices of stress.

6. **Psychological outcomes:** Psychological outcomes like insomnia, nightmares, irritability, hopelessness, anger towards criticism, anxiety, tiredness, excessive smoking and substance abuse can be counted as to reflect stress.

7. **Specific patterns of responding to stress:** Individual's patterns of response to stress is an indicator of his personality. Some persons show hatred and irritability in stressful situations whereas same others become desperate and confessing.

8. **Engagement in tension reduction activities:** In day to day life, people come across a number of situations which arouse stress. Deliberate or unconscious desire to get out of stress is obvious in the increased rate of interest shown in sports and games, joining clubs, rearing of pets, watching movies etc.
Selection of Items

On the basis of related literature and detailed discussion with experts in the field, it was planned to construct an inventory to measure stress on a five point scale. 15 to 20 items were constructed on each area of stress evolved in the discussions. Maximum care was taken to see that each item corresponds to the specific area under which it was constructed and they do not overlap each other.

The listed items were constructed in the form of statements. Each statement was related to situation creating or resulting in subjective experience of stress. Altogether 140 statements were constructed and the following precautions were taken while constructing the test items.

1. Each item was constructed in simple Malayalam so that it could be easily understood.
2. Careful attention was taken to make the items free from the factor of social desirability.
3. Sufficient care was paid to see that each item was closely related to stress.
4. In order to control the acquiescence set of subjects, items were constructed in both positive and negative forms.

2. TRYOUT

The test items were randomly arranged and were applied to an unselected group of 50 school teachers. No time limit was given to the subject and they were asked to read carefully each of the items and express their own opinion.
in terms of any of the five alternatives, 'fully agree', 'agree', 'undecided', 'desagree', 'fully disagree' as the case may be. They were also asked to mention, if the statements were either vague or difficult in respect of their meanings. The test items were again checked on the basis of the responses obtained in the tryout. Statements which belonged to any of the following categories were dropped.

1. Statements which were responded to either favorably or unfavorably almost invariably.

2. Statements which elicited a high proportion of 'undecided' responses

3. Statements which were considered difficult or vague.

Thus, out of the 140 items, 28 items were rejected totally. The remaining 112 statements were given to 5 teachers of Psychology to judge the clarity and face validity of each item. In the light of their judgment 11 more items were dropped and the rest 101 items were retained for final tryout and item analysis.

**Item analysis**

The item analysis of 101 items on the response of a sample of 300 college students was made on a Likert type 5 point scale ranging from 'fully agree' through 'undecided' to 'fully disagree'. Response score of each individual was summed across 101 items. (After converting negative item score to positive). 75 high scoring and 75 low scoring subjects were screened out. These two extreme groups were used to check the discriminative indices of each of the item adopting the criterion of internal consistency suggested by
Likert (1932). t-values were calculated to compare the mean scores of two extreme groups on each item. All the t values are given in appendices. Those items whose t values were significant at 0.01 level were retained in the inventory. Thus 66 items were selected for the final form.

**Reliability**

In order to ascertain the reliability of the inventory, internal consistency as determined by split half method was calculated on the basis of responses given by a sample of 50 college students. The product moment coefficient of correlation between odd and even halves was found to be 0.59 and the coefficient of internal consistency as corrected by Spearman - Brown formula was found to be 0.74. To test the temporal consistency, the inventory was administered to the same sample of 50 college students after 4 weeks. Test-retest coefficient of correlation was found to be 0.79 and temporal consistency to be 0.88.

**Table 3:3**

<table>
<thead>
<tr>
<th>Indices of internal and temporal consistencies of H.S.I.</th>
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<tbody>
<tr>
<td>correlation between odd and even halves.</td>
</tr>
<tr>
<td>0.59</td>
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</table>

**Validity**

To ascertain whether HSI was a valid tool, the content validity was determined. The items were given to five teachers in Psychology (as mentioned earlier) who had sufficient orientation and experience in this area.
They read every item and judged carefully the degree of stress expressed by each. For this purpose the judges were given a table in which they were required to place every items under one of the following 5 categories, Fully agree / agree / undecided / disagree / fully disagree. Judges were also requested to mention such items which were either not well worded or difficult to understand. On the basis of their opinion only 101 items were subjected to item analysis and out of them 66 items which full filled the criteria were finally included in the inventory.

2. MATHEW MALADJUSTMENT INVENTORY (MMI)

Mathew Maladjustment Inventory assesses subject's 5 major aspects of maladjustment viz., anxiety, depression, mania, inferiority and paranoia. Short from of the same inventory was used to assess subject's general maladjustment. The test is reported to have high degree of content validity. The coefficient of reliability (split half) of the subscales ranged from 0.6 to 0.9, the total score having a reliability of 0.9 (Mathew, 1975).

**Trait interpretation**

**Anxiety:** Feeling of impending doom, fear, worry of future, perspiration, palpitation, tremor, being upset. (15 items)

**Depression:** Worry, suicidal thoughts, disinterest, feelings of guilt, sense of failure, hopelessness, despair, emptiness (20 items).

**Mania:** Restlessness, lack of self control, lack of restraint, over activity, quick temper, getting into trouble, over talkativeness, impulsivity (13 items).

**Inferiority:** Feelings of smallness, sensitiveness, shyness, self conscious, lack of self confidence, easily hurt. (15 items).
Paranoia: Suspiciousness, feelings of being persecuted, exploited and misunderstood, not trusting others, getting into quarrels (15 items)

Total Maladjustment: Anxiety, mania, depression, inferiority, obsessive ruminations, compulsions, phobias, withdrawal tendency, nightmares, etc. (100 items).

PROCEDURE

1. Administration and scoring of tests

   The Inventories were administered individually to the subjects at the time of admission to the hospital individually. Before administration, good rapport was established with the subjects. Maximum care was taken to avoid the presence of others. The purpose of research work was clearly explained to clients and their maximum cooperation was requested. Ss were also given assurance that the responses would be kept confidential.

A. Harichandran’s Stress Inventory (HSI)

   Harichandran’s Stress Inventory consists of 66 items on a 5 point scale ranging from fully agree to fully disagree. The inventory was given to the Ss and were asked to read the instructions given in the beginning. No explanation was given regarding any item. However, if the S had difficulty with the language, meanings of specific words were told. The S had to choose one of the 5 responses; viz., Fully agree, agree, undecided, disagree, fully disagree as A, B, C, D or E respectively. While scoring A, B, C, D, or E were given 5, 4, 3, 2, and 1 marks each respectively. Negative items were scored in the reverse order (items given in brackets). Individual S’s score on all the items were summed up to find out the total score on stress.
B. Mathew Maladjustment Inventory (MMI)

The procedure given in the manual of the test for administering was strictly followed. The inventory was given and the Ss were asked to go through the instructions printed on the top of the inventory. In MMI, the subject had to mark their responses in the booklet corresponding to each item. The Ss had to put a (+) mark, if the experience corresponding to the item is relatively more intense or frequent; and a (-) mark when the experience in less intense or less frequent. If the S is undecided about an item, he has to put a (?) mark in the corresponding space.

In the MMI, items are arranged in six columns 1, 2, 3, 4 and 5 respectively the five sub-scales and the column consisting the miscellaneous items to the included in the general maladjustment score. Scoring is done with the help of a transparent plastic scale. Scale is aligned along each column with the help of the printed dots at the top and bottom of each column. In each column (+) marks are counted, (?) is given a weight of – mark. Omitted items are to treated as (?). If there were more than three unanswered items, the test was not scored. The scores were summed up in each column to get the measure corresponding sub scale. Short form g the inventory was used to obtain the general maladjustment of S.

During the study the same Ss were assessed using MMI and HSI after 2 months, 1 year, 2 year and 3 year periods. Thus the Ss were assessed 5 times using the same inventories during a period of 3 years. Every time, the tests were administered in a quite atmosphere of the testing room. After the test-
ing, the Ss were asked to report about the incidences of relapse back to al-
cohol, if any. In the cases of drop outs their relatives were contacted and in-
formation regarding sobriety was obtained.

2. INTERVENTIONS.

Intervention A: (Membership in Alcoholic Anonymous). AA meeting
starts with a serenity prayer in which the participants hold each other's hands
and make a circle. Senior members, one by one gets up from their seats and
introduce themselves as an ‘alcoholic’ and declare that for the present day they
have not taken alcohol due to the blessings of God and fellowship of AA. This
is followed by a discussion in which members disclose their experiences while
they were under intoxication and how they feel the difference then.

Members of Experimental group (EI) were put in the hospital AA meetings
regularly in which they were encouraged by the senior members to discuss
freely about their problems and feelings. The investigator was a passive par-
ticipant in the meeting. This continued for a period of 3 to 4 weeks. Later on
discharge, the Ss were advised to attend AA meetings once in a month. Regular
follow up was done for 3 years.

Intervention B (Relaxation Training)

Members of Experimental Group 2 (E2) were taught to practice two
major relaxation techniques. viz., Jacobson's progressive relaxation and Benson's
relaxation response. Ss were given relaxation sessions on alternate days for
a period of 3 weeks regularly and were encouraged not to give up the prac-
tice. This was continued for a period 3 years.
In Jacobson's Progressive relaxation, Ss were asked to lie down in a supine position with his eyes closed. They were asked to contract and relax each of the different muscle groups in their Skeletal muscular system and to attend to the feeling of increasing tension and relaxation. The steps start from peripheral aspects and move up towards the thoracic and facial muscles. Towards the end of the muscular relaxation, the Ss were asked to visualize some neutral imageries which would further facilitate relaxation. The total programme took about 40 minutes time.

The Benson's relaxation response requires the Ss, to sit in half lotus position on a firm surface with eyes closed and the hands neck and spine kept erect. The total programme took about 20 minutes time. For the first 2 minutes the Ss sit observing the flow of thoughts process without either interfering or participating. Later the Ss keep on repeating the thought of one in a routine, non committed manner without concentrating. The flow of other thoughts is allowed to pass. In the last two minute, the repetition of the thought of one was stopped and as in the beginning, the S observes the thought process.

Control group (C) were followed up at intervals of 2 to 3 months for a period 3 years.

3. RESEARCH DESIGN

Present investigation is an experimental study with two independent variables and 8 dependent variables. First independent variable is the participation of the Ss in AA meetings and the second independent variable is the
relaxation training given to the Ss. Dependent variables include Stress, anxiety, depression, mania, inferiority, paranoia, general maladjustment and the rate of relapse to alcohol.

A sample of 166 alcoholics who were admitted to the de-addiction centre for the first time were chosen for the study. Out of the sample, 60 Ss were randomly assigned to the first group (Experimental group I - E. I). Another 60 SS were assigned to the second group (Experimental group2 - E2) Rest of the sample (n = 46) were kept as control group (C). Simple medication given by the Psychiatrist (Alprazolam 1-2 mg/day given in three divided dozes for 2 weeks) was common for all subjects. MMI and HSI were administered individually to all the three groups and baseline data was obtained.

Analysis

The final sample consisted of only those subjects who were regular for follow ups which spanned for a period of three years. Exp. gr. 1 (E1, Attending AA meetings) Exp. 2 (E2, Practicing relaxation) and the control group for final analysis consisted of 46, 48 and 32 subjects respectively. (It may be noted that the size were 60, 60 and 46 respectively for the three groups.)

The statistical technique applied was 3x5 multivariate analysis of variance for repeated measures involving the three groups (the between subject factor) and the five time intervals(within subject factor). The design can be considered as doubly multivariate in the sense that the repeated measure analysis itself is a MANOVA design and in the present case all the seven dependednt variables were considered together for analysing the group differences in mul-
tivariate space. This design is helpful in ensuring extraction of group differences after controlling for possible intercorrelation among the different variables. It is also worth noting that a repeated measures design is mandatory because the same group of subjects served in all the five different administrations of the same variables.

Graphs were plotted to study and compare the distribution of each variable under study at five different time intervals. Rate of relapse to alcohol in the three groups were calculated after 2 months, 1 year, 2 years and 3 years of period. Chi-square test was conducted to test the significance in differences on relapse among the three groups. Graph was plotted on rate of relapse among each group.