LYSERIC ACID DIETHYLAMIDE AS A VARIABLE IN THE HOSPITAL TREATMENT OF ALCOHOLISM

A FOLLOW-UP STUDY

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The use of lysergic acid diethylamide (LSD) in the treatment of alcoholism has led to many claims as to the drug’s efficacy, but without a controlled study of both in-hospital application and post-hospital adjustment of patients. The present paper is concerned with the use of LSD in placebo and maximum dosages as a concomitant of a Human Relations Training Laboratory treatment program. Patients receiving LSD were also compared with patients completing the Laboratory program but not receiving LSD. Findings were such as to indicate that the long term gains through use of LSD are negligible. A successful post-treatment adjustment seems more closely associated with pretreatment employment level, marital status, and whether or not the patient completes the treatment program.

In the last decade, hopes were raised for the possibility of a breakthrough in the treatment of alcoholism by a number of investigators who pioneered a treatment method involving the use of LSD. Now referred to as psychedelic therapy, the method involves administration, within a therapeutic framework, of a single large dose of LSD designed to produce a profound and deeply insightful experience for the patient. Beneficial personality and attitudinal changes that often are reported to occur as a result of the experience are recognition of self-defeating tendencies, rediscovery of one’s basic sense of worth, a greater sense of relatedness to the world, and a general increase in optimism and hopefulness.

Some of the early studies indicated that 49 per cent or more of the alcoholics treated with LSD were much improved at follow-up periods ranging from 2 to 18 months (4, 6, 7). O’Reilly (10) found that 38 per cent of the alcoholics in his study were abstinent in the 2 months preceding the follow-up conducted from 2 to 36 months after treatment.

Methodological shortcomings of these studies made it difficult to assess precisely whether psychedelic therapy is more effective than other treatment modalities in the treatment of alcoholism. Needed for more objective systematic evaluation were: 1) the use of comparison groups undergoing alternate forms of treatment, 2) thorough follow-up assessment at a fixed time interval of sufficient length to provide assurance of stable improvement, and 3) use of easily quantifiable, objective data as criteria for improvement.

Where controls and a fixed follow-up date have been employed, investigators have been unable to demonstrate that alcoholics treated with LSD are superior in long term adjustment to alcoholics who have received conventional treatment. Smart and Baker (13) found no difference in degree of improvement between

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New York,
1966.

Albert, C. C.,
Frank, J. D.,
Lieber, S.,
Parker, J. Drug.
Frank, J. D.,
Dulan, D. M.,

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10 alcoholics given LSD and 20 control patients who were followed up at 6 months. However, others have noted that the procedures they used in the LSD sessions constituted such a radical departure from accepted methods for producing a beneficial experience that the study cannot be regarded as a valid test of the psychedelic method (8).

Cheek et al. (3) compared a group of 28 alcoholics who went through an LSD program to a group of 34 alcoholics who received a regular hospital program. After 3 months, the LSD group showed much greater improvement than the comparison group in terms of sobriety, work, and family adjustment, but at the 6- and 12-month follow-ups, the advantage had considerably diminished and was not statistically different from the controls. Van Dusen (14) also found no difference in abstinence, vocational adjustment, and social adjustment between 71 female alcoholics treated with LSD and 37 controls who were evaluated 18 months after treatment.

The purpose of the present study is to provide further systematic evaluation of the utility of the psychedelic method in the treatment of alcoholism. The results of two experimental approaches are reported. Experiment I involves a comparison of the adjustment status after 1 year of 41 alcoholics who received LSD in addition to a human relations training program, with 40 alcoholics who went through the human relations training program only. Experiment II involves a comparison of 22 alcoholics who received the accepted therapeutic dosage of LSD (500 μg) with two control groups, one of which consisted of 22 patients who received a placebo dose of LSD (25 μg) and a second control group of 15 patients who did not take LSD but completed the human relations training program concurrently with those patients described above.

### EXPERIMENT I

**METHOD**

**Subjects:** All subjects were male veterans who had voluntarily applied for the alcoholic treatment program at the Topeka Veterans Administration Hospital. The 41 subjects comprising the LSD group entered the hospital from September, 1965, to April, 1966, at which time LSD was given as a routine part of the alcoholic treatment program. The Human Relations Training Laboratory group (HRTL) consisted of 40 subjects who entered the hospital from October, 1966, to April, 1967, a period during which all aspects of the program remained the same except that the use of LSD was discontinued. Five additional patients in the LSD group and one additional patient in the HRTL group completed the respective programs but were lost to follow-up and were not included in the analysis. The mean age of the LSD group was 43.8 years as compared to 46.1 years for the HRTL group. The difference was not statistically significant. Both groups' median educational attainment was at the high school graduate level. Fifteen patients in the LSD group and 17 patients in the HRTL group dropped out of their programs prematurely. The difference in dropout rate was not statistically significant.

**LSD program:** Groups of from 20 to 23 patients were admitted to the program at one time and remained in the hospital for 60 days. Approximately half of the patient group had their LSD session during the first 3 weeks of the program, while the other half received LSD during the last 3 weeks of their hospitalization. The dosage of LSD, administered orally, was 500 μg.

Several group lectures were given to prepare patients for the LSD session. An attempt was made to establish positive expectations about the nature and outcome of the experience. Patients were told that it was a useful method, that they were able to the attempt of the LSD session, and that the LSD session undoubtedly had a positive effect on patients from the hospital.

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told that they could learn a great deal about themselves from the drug session. It was emphasized that the best results were achieved by relaxing, "going along" with the effects of the drug, and by not attempting to resist or control the course of the reaction. Patients who had their LSD sessions earlier in the program undoubtedly talked about their reactions with the patients waiting to go through their sessions. This probably had the effect of reinforcing a positive set, as most patients felt that they derived benefit from the experience.

Patients were permitted to select the nursing assistant who would sit with them during the session. All nursing assistants had been trained to provide complete positive support for the patient, which included physical care, giving close attention at all times, employment of positive suggestions as to the patient's ability to gain from the experience, and giving close personal support such as a hand on the shoulder or holding the patient's hand during the session.

Two rooms in a quiet corridor of the alcoholism treatment ward were informally furnished with tasteful furniture, and a number of potentially symbolic articles such as a flower, pictures, and a two-sided mirror. The patient selected music of his choice which was played on a phonograph throughout the day.

**Human Relations Training Laboratory program:** The second aspect of the program was a Human Relations Training Laboratory, based on Robert Blake's instrumented training laboratory system (1), as modified for use with patients by the staff at the Houston VA Hospital (11). HRTL is based on the assumption that the alcoholic is deficient in ability to cope with environmental problems, particularly in the area of interpersonal skills. The program depends heavily upon prepared exercises designed to enhance resolution of problems by teaching interpersonal problem-solving methods. Three basic teaching methods are employed. First, lecturelettes were given containing didactic material about how to increase effectiveness in groups and about the influences people have upon each other. Second, laboratory exercises were conducted to highlight characteristics of group and individual problems. Third, ratings of self and group were used to evaluate progress and were shared with the group to determine the relationship between group satisfaction and group accomplishments. Every patient, irrespective of whether or not he received LSD, participated in the Human Relations Training. In the programs under discussion, limitations of staff time precluded the possibility of offering psychotherapy on either an individual or group basis.

**Evaluation:** All patients in the study were followed up by a research social worker 1 year after discharge from the program. The patient was interviewed in person by the social worker, generally at the patient's home. Where feasible, the patient's spouse or nearest relative was also interviewed. If the patient lived too far away to make a home visit practical, the nearest VA office conducted the interview. The areas of sobriety, employment, personal adjustment, and social life were focused upon. An empirically derived 8-point scale was designed to rate adequacy of adjustment. Points were assigned on the following basis:

<table>
<thead>
<tr>
<th>Category</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstinent 6 months or more</td>
<td>1 point</td>
</tr>
<tr>
<td>Abstinent 11 or 12 months</td>
<td>1 point</td>
</tr>
<tr>
<td>Employed 6 months or more</td>
<td>1 point</td>
</tr>
<tr>
<td>Employed 11 or 12 months</td>
<td>1 point</td>
</tr>
<tr>
<td>Belonged to a social organization</td>
<td>1 point</td>
</tr>
<tr>
<td>No trouble with the police or courts</td>
<td>1 point</td>
</tr>
<tr>
<td>No DTs or convulsions</td>
<td>1 point</td>
</tr>
<tr>
<td>No subsequent hospitalization</td>
<td>1 point</td>
</tr>
</tbody>
</table>

Scores were then broken down into the following classifications:
In an informal check of the validity of the scale, excellent agreement was obtained between scale ratings and the social worker’s subjective impressions of adjustment.

RESULTS

The outcome findings for the LSD and HRTI groups are listed in Table 1. To test whether there was a significant difference in adjustment between the groups, data were analyzed by means of chi-square. Results did not prove significant at the .05 level. Thus, it cannot be concluded that a combination of LSD and human relations program is more effective than a human relations program alone. Approximately 17 per cent of the LSD group and 22 per cent of the HRTI group were rated good adjustment 1 year after treatment.

An additional 8 LSD patients and 10 HRTI patients who dropped out of their respective programs prematurely were also followed up by the social worker. These comparisons are contained in Table 2, which includes all patients for whom outcome data are available, whether they completed a treatment program or not. A chi-square analysis of these data again fails to reveal a significant difference between the LSD and HRTI groups in adjustment status after 1 year.

<table>
<thead>
<tr>
<th>Treatment Modality and Post-Treatment Outcome for All Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Modality and Level of Functioning at Outcome</td>
</tr>
<tr>
<td>Poor</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>LSD</td>
</tr>
<tr>
<td>HRTI</td>
</tr>
<tr>
<td>LSD</td>
</tr>
<tr>
<td>HRTI</td>
</tr>
</tbody>
</table>

$x^2 = 0.852, x^2_{.05} = 5.991.$

EXPERIMENT II

METHOD

During the period from April, 1966, to October, 1966, a total of 59 alcoholic patients entered and completed the alco-

The patients were told that through random selection they would receive either a large or small dose of LSD. The dosage level administered was not revealed until a year later, after the outcome data had been collected. Of the 59 patients, 44 volunteered and were permitted to participate in the study. Twenty-two patients received a 500-μg dose of LSD, a similar number received the 25-μg placebo dose. Of the remaining 15 patients, 9 refused to take LSD and 6 were denied the drug on the basis of physical or psychiatric contraindications. These 15 patients were used as a second comparison group for purposes of the analysis. In all other respects, the program was the same as that described for the LSD group in experiment I.

RESULTS

Adjustment status for all groups 1 year after treatment is depicted in Table 3. The difference in outcome is not statisti-
LSD USED IN TREATMENT OF ALCOHOLISM

115

Call, 1966, to alcoholic pa-

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double blind

employed. Those

Table 3. Occupations and education were assigned

TABLE 3

Treatment Modality (by Dosage Level of LSD) and Post-Treatment Outcome

<table>
<thead>
<tr>
<th>Treatment Modality</th>
<th>Level of Functioning at Outcome</th>
<th>Total No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poor</td>
<td>Fair</td>
</tr>
<tr>
<td>HRTL and LSD (500 µg)</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>HRTL and LSD (25 µg)</td>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>HRTL only (no LSD)</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

\[ x^2 = 5.738, x^2_{0.05} = 7.815. \]

An additional analysis was conducted on data formed by combining the results of experiments I and II. The differences in outcome are not statistically significant and again indicate that the use of LSD combined with a human relations training program does not make a contribution to outcome that differs from human relations training alone. The percentages of those rated as making a good adjustment, 24 per cent for the LSD group and 27 per cent for the HRTL group, are highly consistent with results of a previous study involving a 1-year follow-up of alcoholics who went through the Topeka VA program (2).

The extent of response to LSD was measured by the Chwecos Scale (4), an instrument which unfortunately lacks discriminatory power at the upper levels. Over two-thirds of the patients were rated as having achieved the maximum response (6 level), although it was apparent that there were great variations in the intensity of the experience within this response level. Patients achieving the maximum response were compared with those rated as achieving less than maximum in terms of outcome at follow-up, but no significant differences in adjustment were noted.

A final analysis was concerned with the timing of the administration of LSD, i.e., whether it was administered just after admission or in the week penultimate to discharge. As Table 8 indicates, the results would tentatively suggest a trend toward a more favorable outcome associated with the administration of LSD near the end of the treatment program. However, the group receiving LSD early in the program contains a disproportionate number of patients who failed to complete the program. When the table was recomputed with these patients removed, this slight difference was further minimized.

OTHER CORRELATES OF OUTCOME

Occupation and education were assigned ranks according to the classification system suggested by Hollingshead (5). The occupation used was based on the employ-
Table 5
Pretreatment Employment Level and Post-Treatment Outcome

<table>
<thead>
<tr>
<th>Employment Level</th>
<th>Level of Functioning at Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poor</td>
</tr>
<tr>
<td>Managerial, professional, white collar</td>
<td>13</td>
</tr>
<tr>
<td>(Hollingshead positions 1-4)</td>
<td></td>
</tr>
<tr>
<td>Skilled, semiskilled, unskilled (Hollingshead</td>
<td>31</td>
</tr>
<tr>
<td>positions 5-7)</td>
<td></td>
</tr>
</tbody>
</table>

\(x^2 = 7.530, x^2, .05 = 7.824.\)

Table 6
Marital Status and Post-Treatment Outcome

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Level of Functioning at Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Poor</td>
</tr>
<tr>
<td>Not married</td>
<td>31</td>
</tr>
<tr>
<td>Married</td>
<td>16</td>
</tr>
</tbody>
</table>

\(x^2 = 9.191, x^2, .05 = 7.824.\)

Results from this study were consistent with the findings of a previous follow-up of patients treated in a 90-day group psychotherapy with LSD program (2). Age was not associated with outcome, i.e., the median of 11.6 years, and the population was divided into those who had or had not completed high school.

In order to adjust for the presence of these two treatments, the study used a more rigorous statistical analysis. The findings were consistent with the previous study, indicating a trend for each treatment modality irrespective of treatment modalities.
outcome, irrespective of treatment modality, when dichotomized at the median, i.e., either above or below 41.5 years.

Marital status at admission was associated with outcome. Of those patients making a poor adjustment at follow-up, the odds were nearly twice as great that the patient was not married at admission vs. married. (Not married includes the widowed, never married, divorced, and currently separated.) The reverse is true of those making a good outcome; i.e., of those regarded as making a good adjustment at follow-up, the chances are two to one the patient was married vs. not married at admission. These findings are reflected in Table 6.

Follow-up data was obtained on 27 of the 41 patients who failed to complete the program, and ratings of post-treatment outcomes of this group were compared with outcomes of those who completed a treatment program. There was no significant difference between treatment modalities in the rate of those failing to complete the program. However, as evidenced in Table 7, the difference in post-treatment adjustment between those who complete a program and those who do not is dramatic. Those who fail to complete a program seem destined to fail in their posthospital adjustment.

**DISCUSSION**

In those instances where the psychedelic method of treating alcoholism has been subjected to controlled, systematic evaluation, investigators have been unable to demonstrate that it results in better adjustment over the long term than alternate treatment modalities. The results of the present study are no exception. In the two experiments described, alcoholics treated with a combination of LSD and human relations training are approximately equal in adjustment status after 1 year to alcoholics treated through human relations training only or human relations plus a placebo LSD experience.

It should be emphasized that the treatment team had 2 years of experience with LSD at the time the experiment was conducted and had a favorable view of its value in the treatment of alcoholism. Expectations of the staff and the setting in which the experience is conducted are known to be crucial factors in influencing the nature of the LSD experience. Skepticism or detached objectivity are communicated to the patient and are likely to affect the experience adversely.

It is worthwhile to consider what it is about the LSD reaction that inspires such great enthusiasm for it as a treatment method among so many of those who are familiar with its effects. The answer, we feel, is that very real and dramatic personality changes are frequently observed to occur over the short term. It was not unusual for patients following their LSD experience to become much more self-accepting, to show greater openness and accessibility, and to adopt a more positive, optimistic view of their capacities to face future problems. Cheek et al. (3) were able to demonstrate that LSD-treated alcoholics showed better all around adjustment after 3 months but lost this advantage at later follow-up periods. Mogar and Savage (9) found that patients undergoing psychedelic therapy showed substantial changes at 2-months follow-up, including more adequate ego resources, less depression and psychic discomfort, greater ease in social relationships, and a greater sense of meaning and purpose in life. Although some improvement was maintained at the 6-month follow-up period, there was a tendency for scores to deviate less from pretreatment levels than at the 2-month follow-up.

The question of whether the short term changes can be maintained is an intriguing one. There is something magical about expecting a single experience, in-
sightful, dramatic, and inspiring as it may be, to drastically change an individual's habitual life style. Such conversion experiences do, on occasion, lead to radical and enduring modification in personality functioning, but they are relatively rare. Most alcoholics report a waning of the initial inspiration, euphoria, and good intentions gleaned from the LSD experience when they are again confronted with the former stresses and difficulties in their lives. Greater success could probably be achieved if these individuals received support and additional help extending beyond the hospitalization period in order to integrate and apply their insights to daily life problems.

In a revised LSD program currently being conducted at the Topeka VA Hospital an attempt is being made to reinforce holies in a mental hospital. Quart. J. Stud. Psychopathology (1966) 2: 26-34, 1968.

Failure to demonstrate that the psychedelic method is superior to other treatment modalities in dealing with alcoholism does not, of course, mean that LSD cannot be a useful adjunct to psychotherapy. Shagass (12) found that the psychedelic procedure produced more beneficial changes at 1-year follow-up than conventional psychotherapy in treating adolescent behavior disorders. There have also been numerous reports that the regular use of LSD as an adjunct to conventional therapy can result in more profound changes in the direction of greater psychological health and significantly shorten the length of time required to attain treatment objectives. However, a study such as the present one dramatizes the need for testing the validity of such claims through controlled experimental evaluation.

REFERENCES