



Long-Term Abstinence From Alcohol in Patients Receiving Aversion Therapy as Part of a Multimodal Inpatient Program

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Abstract

A sample of 200 patients who had been treated for alcoholism in a multimodal inpatient program that used aversion therapy as a treatment component was selected for outcome evaluation. One hundred sixty (80%) were located. A minimum of 13 months had elapsed since treatment (mean 20.5 months) collateral reports were used to verify self-reports in 36% of the cases. Abstinence status was determined for the first 12 months since treatment, the entire elapsed time since treatment (range 13 to 25 months, mean 20.5 months), and "current abstinence" (last 6 months). The abstinence rate for the first 12 months was 71.3%; for the total period since treatment, the rate was 65% (mean 20.5 months); the current abstinence rate was 78.1%. The data was also viewed from other perspectives. The findings of this study suggest that a multimodal alcoholism treatment program utilizing aversion conditioning is at least as acceptable to patients as counseling centered programs and can be expected to yield favorable abstinence rates.

Keywords: Alcoholism treatment, abstinence, aversion therapy, treatment outcome, inpatient treatment

Introduction

In order to evaluate the appropriateness and effectiveness of treatment for any disease, the basic evaluative tool is the outcome study. The field of alcoholism treatment has come under criticism because of a general lack of such studies and the relatively poor quality of those studies that have been carried out. Critics have pointed out the anecdotal nature of many reports, the lack of control groups, and the lack of blind procedures (Nathan & Skinstad, 1987; Sobell, Brochu, Sobel, Roy, & Stevens, 1987).

Some of these deficiencies are inherent in the nature of the treatment process (e.g., it is inherently impossible to have a double blind study when one component of treatment is aversion therapy). Other difficulties arise when attempting to assess results from programs where the treatment goal is difficult to quantitate or measure (e.g., "recovery" or "sobriety").

It is even more difficult to compare the results of treatment carried out in different centers when there is a lack of agreement on the desired outcome (e.g., "controlled drinking" versus abstinence from alcohol versus abstinence from *all* mood altering drugs).

Nevertheless, it is the belief of the authors that it is the duty of responsible treatment programs to carry out periodic assessments of their treatment outcomes and that results should be made available to other professionals in the field. Schick Shadel Hospitals have conducted outcome research since their founding in 1935, and the early development and treatment team of Voegtlin and Lemere are widely quoted as among the first in the United States to publish such data (Voegtlin, 1940; Lemere & Voegtlin, 1940; Voegtlin, Lemere, & Broz, 1948). The present study is a continuation of this process of periodic analysis of treatment outcome at Schick Shadel Hospitals.

Method

The objective was to determine the alcohol abstinence rate of patients treated for the first time at Schick Shadel Hospital of Santa Barbara, California, at least one year after treatment. A random sample of 200 patients who had completed the initial 10 days of treatment at that hospital in 1983 was selected. The total number of patients who met these criteria that year was 377. The selection process was as follows: Using a list of random numbers, 200 two-digit numbers were selected. These random numbers were matched with the last two digits of the case numbers of patients treated in 1983. Those cases matched in this manner were selected for follow-up. The sampling method insured that every patient treated at the hospital in 1983 had an equal chance of being selected for follow-up. No patient completing the initial 10 days of treatment was included or excluded from the study for any reason except chance.

Each patient was then telephoned by a trained interviewer employed by the independent research organization conducting the study (Facts Consolidated of Los Angeles, California). Each interviewer was first indoctrinated in the applicable statutes and policies concerning confidentiality as they apply to patients of an alcoholism treatment facility.

Patients were systematically telephoned until contact was made or until all possibilities of locating them by phone had been exhausted. Those contacted received a structured interview. In cases where pursuance of the interview would cause a breach of confidentiality, further attempts to reach that patient were abandoned. Using this procedure, 160 patients were successfully interviewed and 40 were not (80% personal contact rate).

A sample of 160 patients selected in this manner has a margin for statistical error of 7.9% at the .95 confidence level. That is, the chances are 95 out of 100 that the results that were obtained would not differ more than 7.9% in either direction from the results obtained from another similar group of 1983 patients treated at Schick Shadel Hospital.

In addition to patient interviews, a verification interview with a significant other was carried out in 36% of cases (58 interviews). In only one case did the verification interview give results that conflicted with the patient's response. In that case the patient outcome category was changed from abstinent to non-abstinent.

In instances where the patient reported abstinence from the time of treatment to the 12 month mark, but also reported relapse after 12 months, verification of that report was obtained in 100% of the cases. In this group, only those cases where the significant other verified continuous abstinence through 12 months were included in the 12 months abstinent category.

In addition to the 160 patients whose status was determined by this interviewing procedure, 5 were deceased and 5 refused to be interviewed. These 10 patients were listed in the no contact group.

In addition to the telephone contacts, the charts of all 200 patients were reviewed. The chart-documented status of the 40 patients who were not contacted was also incorporated into the data for analysis. Those with a chart-documented relapse were placed in the relapse group. This gave the opportunity to look at the data three ways:

1. Analysis of the data on the 160 contacted patients (80% follow-up).
2. Analysis of the data on the 160 contacted patients plus the non-contacted patients with chart-documented relapse (n = 22) for a total of 182 cases (91% follow-up).
3. Analysis of data on all 200 patients (100%).

The outcome survey was conducted in February and March 1985. A minimum of 13 months and as many as 25 months had elapsed since the completion of treatment (mean 20.5 months).

The Treatment Program

The treatment program of Schick Shadel Hospital is described in more detail elsewhere (Smith, 1982). Briefly, it consists of:

1. A detailed medical evaluation (including laboratory studies).
2. Medical detoxification for those who require it (approximately 50%).
3. Counseling (group and individual) for the patient and significant others. (Patients receive a detailed psychosocial evaluation and a psychological evaluation).
4. Education on the addiction and recovery process for the patient and significant others.
5. A family program (individual and group).
6. Development of an aftercare plan with the patient and significant others (2-year plan).
7. Aversive counter-conditioning designed to make the sight, smell, taste, and thought of alcoholic beverages unpalatable (Voegtlin, 1940; Cannon & Baker, 1981).
8. Narcotherapy (“pentothal interview”) designed to gather psychological diagnostic information in a short period of time and also to monitor the development of aversion to the various alcoholic beverages by asking about the level of desire for each type of beverage during each interview (Smith, Lemere, & Dunn, 1971).
9. Introduction to follow-up support activities such as 12-step programs, hospital-based support groups, and others.

The treatment program for the average patient is carried out during 10 days of hospitalization (post detoxification) during which the patient receives five aversion treatments and five narcotherapy treatments. These two forms of treatment are given on alternate days (e.g., Day 1 an aversion treatment, Day 2 a narcotherapy treatment). The counseling and educational components of the program are carried out daily.

Following the initial 10 days of treatment, the patient returns home. He or she then returns to the hospital for two 2-day “reinforcement treatments,” usually at approximately 30 days and 90 days following their initial discharge. These two-day hospitalizations include one aversion treatment and one narcotherapy treatment, again on an alternate day basis. In addition, counseling and aftercare plan modification is carried out.

The goal of this treatment program is to assist each patient to regain control of his or her life through permanent abstinence from alcohol. Abstinence from other potentially addictive drugs is also stressed. No aversion treatment for drugs other than alcohol was available to this group of patients. The educational and counseling portion of the program addressed this issue in those patients who were also using other drugs.

Subjects

Those selected for interview were drawn from the universe of patients who had completed for the first time at least the first 10 days (post detoxification) increment of the inpatient alcoholism treatment program at Schick Shadel Hospital of Santa Barbara, California, during calendar year 1983. Only 3% of the patients admitted that year left the hospital prior to completing the initial 10 day treatment program. Another 2.5% were admitted for detoxification only. Neither group of patients were candidates for inclusion in this study.

The demographics of Schick Shadel Hospital patients have been described in detail elsewhere (Knowles, Smith, & Lemere, 1983). Demographic details of the subjects of the present study are shown in Table 1. In general, they resemble typical patients in other inpatient treatment programs for medically non-indigent persons (Weins & Menustik, 1983; Cordill & Associates, 1988; Moberg, 1978). The majority were males (73%) between the ages of

25 and 55 (79.5%) and were married (61%). Almost all had at least a high school education (93.5%). Most (60%) had at least some college education, and 23% had at least a bachelors degree. The majority (79%) were employed.

TABLE 1 - Demographics (N = 200)

Variable	Percent
Sex	
Males	73.0
Females	27.0
Age	
<26	8.5
26-55	79.5
>55	12.0
Marital status	
Married	61.0
Single	13.8
Widowed	2.5
Separated/Divorced	22.5
Education	
<12 years	6.5
12 years (high school graduate)	24.0
Some college (but no degree)	37.0
College graduate	23.5
Refused to answer	9.0
Occupation	
Professional	32.0
Other white collar	19.5
Blue Collar	27.0
Unemployed	4.5
Not working-other	16.5

All subjects met the DSM-III criteria for alcohol dependence. History of other drug use over the 6 months prior to treatment was obtained (Table 2). Nearly 40% (39.6%) of the patients used some drug other than alcohol during the six months prior to treatment. This use was limited to one drug in 14.3% of cases, two drugs in 15.4% of cases, three drugs in 5.5% of cases, and four or more drugs in 3.8% of cases.

The types of other drugs used are shown in Table 3. Marijuana and cocaine were by far the most commonly used. They were each used by 25.8% of patients. In many cases the same patient used both drugs.

Of this sample, 65% reported no previous formalized treatment of their alcohol dependence prior to treatment at Schick Shadel Hospital, 13.8% had received previous inpatient treatment, 32.5% had received other formalized treatment, and 41.9% reported participation in the fellowship of alcoholics anonymous.

TABLE 2 - Drug(s) used in the 6 months prior to treatment (N = 200)

Drugs	Percent
Alcohol only	61.0
Alcohol and other drug (s)	39.0
1 other drug	14.3
2 other drugs	15.4
3 other drugs	5.5
4 or more other drugs	3.8

TABLE 3 - Drugs other than alcohol used in the 6 months prior to treatment*

Drug	Percent who used**
No other drug use	60.4
Cocaine	25.8
Marijuana	25.8
Amphetamines	12.1
Sedative drugs	5.5
Opiates	4.9
Hallucinogens	4.4

* Patient population N = 182.

** Percentages add up to over 100% because some patients used more than one drug.

Results

Of the 200 patients selected for the study, 160 were contacted during the survey. The minimum elapsed time since treatment was 13 months, and the maximum was 25 months (mean 20.5 months).

Information was obtained from these patients, with validating information from a significant other in 36% of cases. The information obtained included:

1. Alcohol abstinence status over the entire span of time since treatment (total abstinence).
2. Alcohol abstinence status over the last six months (current abstinence).
3. Alcohol abstinence status over the first 12-month span of time following treatment (12-month abstinence).

Of the 40 patients who could not be contacted, chart review indicated that 22 of them were known to have relapsed; 5 of these were known to be deceased. The remaining 18 had no indication of relapse documented in their charts.

The rate of abstinence at 12 months, 13-25 months (mean 20.5 months), and current abstinence (last 6 months) is shown in Table 4. The contacted group (n = 160) comprised 80% of the 200 individuals selected for follow-up. They had a 12-month abstinence rate of 71.3%, a 13-25 month (mean 20.5 month) abstinence rate of 65.0%, and a current abstinent rate of 78.1%.

TABLE 4 - Abstinence Status

Follow-up Group	Percent 12-month Abstinence	Percent 13- to 25-month Abstinence (Mean 20.5 mos)	Percent
Telephone contact group (N = 160)	71.3	65.0	78.1
Telephone contact plus chart-documented relapses (N = 182)	62.6	57.1	N/A
Telephone contact plus chart-documented relapse plus no chart-documented relapse (N = 200)	66.5	61.5	N/A

The group composed of contacted patients (n = 160) plus chart documented, relapsed, non-contacted patients (n = 22) numbered 182 individuals (91% of the selected sample of 200). They had a 12-month abstinence rate of 62.6%, a 13-25 month (mean 20.5 month) abstinent rate of 57.1%.

The total group of 200 individuals (100% sample) composed of contacted individuals (n = 160), chart documented relapsed, non-contacted patients (n = 22), and non-contacted patients without chart evidence of relapse (n = 18)

had abstinence rates of 66.5% at 12 months and 61.5% at 13-25 months (mean 20.5 months).

Table 5 shows the patterns of alcohol consumption for the contacted group following treatment. It will be noted that a few patients had one drink, or part of a drink, either deliberately or accidentally, after treatment. Although these patients were not included in the total abstinence group, it can be reasonably concluded that they were successful in achieving their treatment goal.

TABLE 5 - Pattern of alcohol use of the contacted group after treatment (N = 160)

Alcohol Use	Percent
No alcohol for at least 12 months	71.3
No alcohol since treatment (mean 20.5 mo.)	65.0
Accidental consumption, once only, abstinent since then	0.6
Deliberate consumption, once only, abstinent since then	3.1
Drank but abstinent 6 mo. or longer prior to follow-up	10.0
Drank but abstinent at follow-up less than 6 mo.	5.0
Still drinking at follow-up	16.3

Other Findings

Of the 160 contacted patients, 61.3% were married at the time of admission. At the time of follow-up 77.6% of these were still married, while 17.3% were divorced or separated. Of the 36 patients who were divorced or separated at the time of admission, 7 (20%) were married at follow-up. Of the 22 who were single (never married) at the time of admission, three (14%) were married at follow-up. Employment status was essentially unchanged.

The most powerful predictor of abstinence was the number of reinforcement treatments utilized by the patient. Those taking the two regularly prescribed reinforcement treatments had a 12-month abstinent rate of 70.0%. Those who took only one had a 44.0% 12-month abstinent rate, and those who had no reinforcements had only a 27.0% abstinent rate. Of additional interest is the fact that the 7% of patients who took more than two reinforcement treatments had a 12 month abstinent rate of 92%.

Discussion

Although authorities in the field of alcoholism treatment are not unanimous in choosing total abstinence from alcohol as the ultimate goal (Nathan & Skinstad, 1987), abstinence has been the traditional goal of the Schick Shadel program since its beginning in 1935. The authors readily agree that an enhanced quality of all aspects of life for the patient and family is the ultimate goal. However, it is our opinion that this goal is most often reached by alcoholics after they become abstinent. Babor, Dolinsky, Rounsaville, and Jaffe (1988) showed a clear linear relationship between the level of alcohol consumption post treatment and failure to improve in medical status, biological function, and psychopathology. Emrick (1974) reviewed 110 studies and found over two-thirds of the outcome criteria improved as abstinence was achieved. In attempting to assess successful treatment outcome, the end point of total abstinence is also much more easily measured and agreed upon than more subjective measures such as “controlled drinking” or “enhanced quality of life.”

Abstinence status at a minimum of one year post treatment was chosen as an assessment point simply because a majority of other outcome studies report results at this time. It therefore makes comparison of results more convenient, although cogent arguments can, and have, been made for assessing outcome at shorter or longer intervals (Costello, 1975a, 1975b; Emrick, 1975). Because of the high degree of mobility of people in the United States where nearly one person out of five moves each year (U.S. Bureau of the Census, 1986) it becomes extraordinarily difficult to locate persons after two, three, or more years. Therefore, one-year data seems to be a reasonable compromise between the practical mechanics involved in conducting outcome studies and allowing

enough time to pass following treatment so that patients can demonstrate reasonable ability to live without alcohol.

The issue of relying on patient self-report on abstinence status has also been debated (Babor, Stephens, & Marlatt, 1987; Fuller, 1988; Watson, Tilleskjer, Hoodecheck-Schow, Pucel, & Jacobs, 1984; Maisto & O'Farrell, 1985; Watson, 1985). A number of researchers have concluded that, so long as reports of drinking do not lead to unwanted consequences, self reports of total abstinence are accurate (Sobell & Sobell, 1974; Sobell, Maisto, Sobell, & Cooper, 1979; Babor et al., 1987). Some emphasize that self-reports on abstinence versus non-abstinence are more accurate than self-reports on frequency and amounts consumed by those who are not abstinent (Sobell, Sobell, & VanderSpek, 1979). Our own experience is consistent with both positions. We have found in past studies that when collateral assessments of abstinence differ from patient reports, the difference is more likely to be in the direction of the patient's reporting a short period of drinking while the collateral reports continuous abstinence.

As a validity check in the present study, approximately one patient out of three (36%) had his or her abstinence assessment compared to the assessment of a significant other. In only one case was there a disagreement. Therefore, it again appears that self-report is sufficiently valid so that it represents a practical way of assessing abstinence rates following treatment.

The fact that only 3% of patients left treatment before completing the initial 10 days (post detoxification) of treatment suggests that, despite the use of aversion therapy, patient acceptance of the treatment program was extremely high. Other treatment programs report premature discharge rates of 7% (Gilmore, 1985) to 21% (Patton, 1979).

The goal of successfully achieving 12 months of continuous abstinence was achieved by the majority of patients. Of the contacted group, 71.3% were successful. Even when a negatively biased view was taken (contacted group plus non-contacted subjects with chart-documented relapse) the 12-month abstinence rate was 62.6%. These abstinence rates compare favorably with those reported from other programs that are based primarily on counseling and group therapy. Typical one year abstinence rates range from 31.9% to 59% (McLachlan, 1974; Freedberg & Johnston, 1981; Pettinati, Sugerma, DiDonato, & Maurer, 1982; Glatt & Lepzig, 1955; Gilmore, 1985).

The abstinence rates in this study are similar to, though somewhat higher than, those reported in the early days of the Schick Shadel treatment program (e.g., 65.7% in the first study reported in 1940) (Voegtlin, 1940).

Taking both prescribed reinforcement treatment sessions was shown to be strongly associated with long-term abstinence in this study. Wiens and Menustik (1983) reported similar findings in their outcome study, which also used aversion therapy as a major treatment component.

Outcome studies on comparable patient populations conducted by other aversion conditioning programs also yield high success rates, and are quite comparable to those reported from the early Schick Shadel studies (e.g., 52% abstinence at one year reported by Neuburger and colleagues (1982) and 63% one-year abstinence reported by Weins and Menustik (1983).

These findings suggest that a multimodal alcoholism treatment program that also uses aversion therapy is at least as acceptable to patients as counseling centered programs and can be expected to yield favorable abstinence rates.

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