

# The Cleveland Clinic Alcohol Rehabilitation Program: a treatment outcome study

A preliminary report<sup>1</sup>

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After the first 18 months of operation of the Cleveland Clinic Alcohol Rehabilitation Program, a treatment outcome study was performed to determine demographic characteristics of the patient population and effectiveness of treatment. Overall, 65.1% of alcohol abusers and 78.4% of drug abusers achieved favorable outcomes. Treatment modalities that correlated with positive outcomes included inpatient rehabilitation, outpatient psychotherapy, current activity in Alcoholics Anonymous, and taking disulfiram. The multimodality treatment approach was shown to be highly beneficial in helping people achieve stable avoidance of drugs or alcohol.

**Index term:** Alcoholism, rehabilitation

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In August 1980, the Department of Psychiatry at The Cleveland Clinic Foundation developed an Alcohol Rehabilitation Program (ARP) to provide outpatient and consultation-liaison services to patients with alcohol and drug-dependency problems. No inpatient facilities for detoxification or rehabilitation were available. Services provided in the ARP included comprehensive chemical-dependency evaluations, outpatient psychotherapy aimed at abstinence from drugs and alcohol, referral to Alcoholics Anonymous (AA) or Narcotics Anonymous, family therapy, and disulfiram (Antabuse) for selected patients. Many patients were referred to other institutions for inpatient detoxification and rehabilitation. Upon return to outpatient status, the

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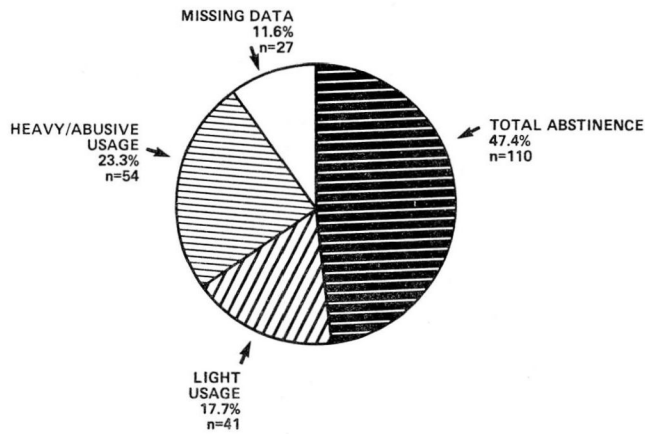


Fig. 1. Post-treatment use of alcohol in 232 patients.

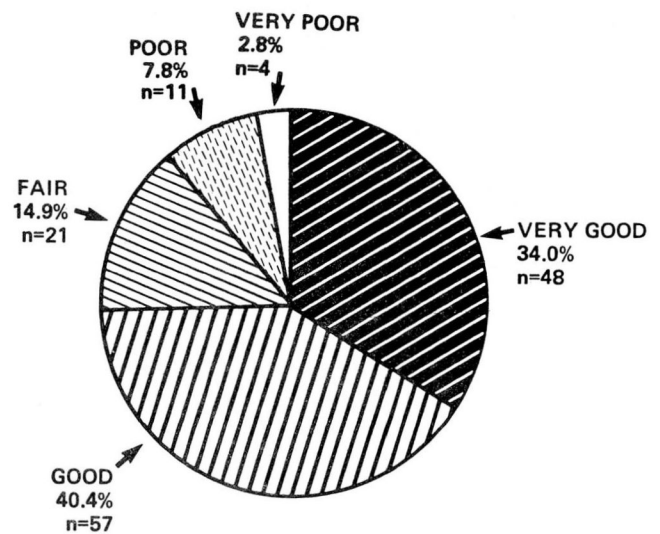


Fig. 3. Post-treatment job performance in 232 patients.



Fig. 2. Post-treatment use of drugs other than alcohol in 232 patients.

patients were followed in the ARP on a weekly or bi-weekly basis.

After 18 months of operation of the ARP, a treatment-outcome study was performed to determine characteristics of the patient population and the efficacy of treatment modalities used in the ARP.

**Method**

In February 1982, after 18 months of ARP operation, an attempt was made to contact all patients seen by the program since its inception. Inpatients and consultation-liaison patients were excluded from the study. The information was obtained with the aid of a questionnaire during office visits to the ARP, by telephone, or by chart review. Most information was obtained from pa-

tients directly, with a large majority of these responses corroborated by spouses, employers, or AA members. The questionnaire focused on demographic descriptive data, alcohol and drug use, treatment modalities, employment status and performance, and global ratings of improvement. Statistical analysis and computation of data were provided by the Department of Biostatistics at the Cleveland Clinic.

**Results**

During 18 months between August 1980 and February 1982, 232 outpatients sought treatment at the ARP for chemical-dependency. Of these, 160 (69.0%) were male and 71 (30.6%) were female, 111 (47.8%) were married, 30 (12.9%) were Cleveland Clinic employees, 124 (53.4%) were employed full time outside the Cleveland Clinic, 60 (25.9%) were college graduates or had postgraduate training, 56 (24.1%) had some college training, 56 (24.1%) were high school graduates only, and 36 (15.5%) had not completed high school. The most commonly used chemical was alcohol (62.9%), although combined alcohol and drug use accounted for 18.1%, and narcotic analgesic use represented 5.2%. Other drugs included tranquilizers, marijuana, cocaine, stimulants, hallucinogens, and inhalants. Of referrals, 57.5% came from medical or psychiatric services within the Cleveland Clinic. Mean age of patients was 39.6 years (range, 14

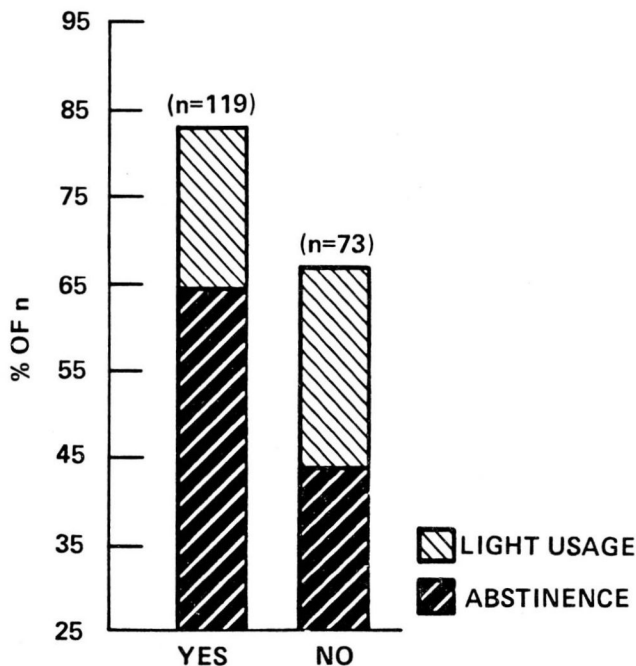


Fig. 4. Any attendance in Alcoholics Anonymous.

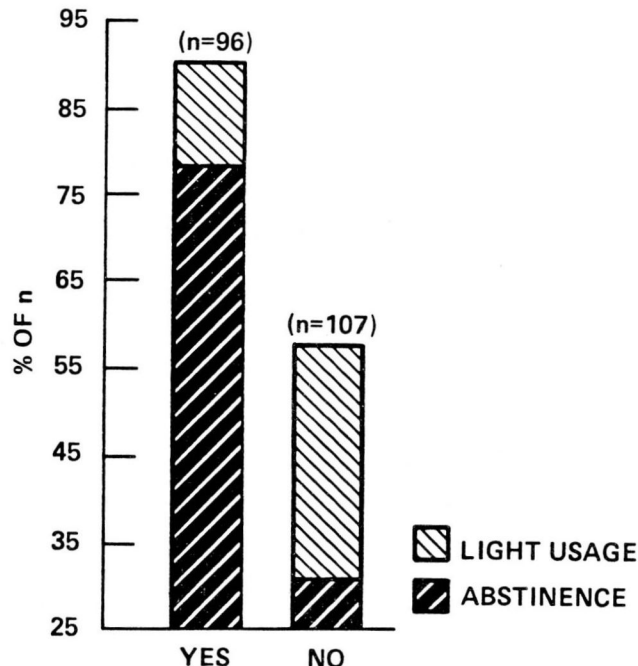


Fig. 5. Patients currently attending self-help meetings.

to 69 years). Mean length of time of treatment was eight months.

Post-treatment data for alcohol and drug use of patients treated by the ARP are presented in *Figures 1 and 2*. The designation of "total abstinence" was given if a patient had not consumed any alcohol or drugs since the time of entering treatment. This stringent outcome criterion was met by 47.4% of alcoholics, and 70.3% of drug abusers. The designation "abstinence plus light usage" includes both totally abstinent patients and patients who had light, nonproblematic use on three or fewer occasions. This broader category is still considered positive, and included 65.1% of alcoholics and 78.4% of drug abusers. The designation of "heavy-abusive usage" includes heavy drinking episodes or overall heavy use of alcohol or drugs, which was reported in 23.3% of alcoholics and 10.8% of drug abusers. "Missing data" includes all patients who could not be contacted for the ARP follow-up interview.

*Figure 3* displays reported job performance after treatment. Of 141 applicable responses, 105 (74.5%) reported "very good" or "good" post-treatment job performance, whereas 15 (10.6%) reported "poor" or "very poor" job performance.

All 232 patients received comprehensive eval-

uations and recommendations for treatment. Initially, 53 (22.8%) were admitted to the Cleveland Clinic, 183 (78.9%) were referred to inpatient rehabilitation units or centers, and 103 of the 183 (56.3%) were admitted. Of those admitted, 82% reported improvement as opposed to 62% improvement in those who refused admission. Although all patients were referred to AA, only 119 (51.3%) had some contact with AA. *Figure 4* illustrates chemical avoidance in patients who had been or were currently in AA. In the 119 patients reporting any AA attendance, 99 (83.2%) were in the abstinent-light usage categories, as opposed to 49 (67%) with no AA attendance. Of 96 patients reporting *current* attendance at self-help groups, 87 (91%) reported abstinence or light usage, as opposed to 62 (58%) of 107 patients not currently attending AA sessions (*Fig. 5*). Chemical avoidance also was correlated with more frequent AA meeting attendance (78/86 or 90.7% "abstinence or light usage" for two or more AA meetings per week versus 7/9 or 78% for one meeting per week) (*Fig. 6*), and with having an AA "sponsor" (79/93 or 85% abstinence or light usage with sponsor versus 69/108 or 63.9% without sponsor) (*Fig. 7*). Of those who received outpatient therapy, 80% reported

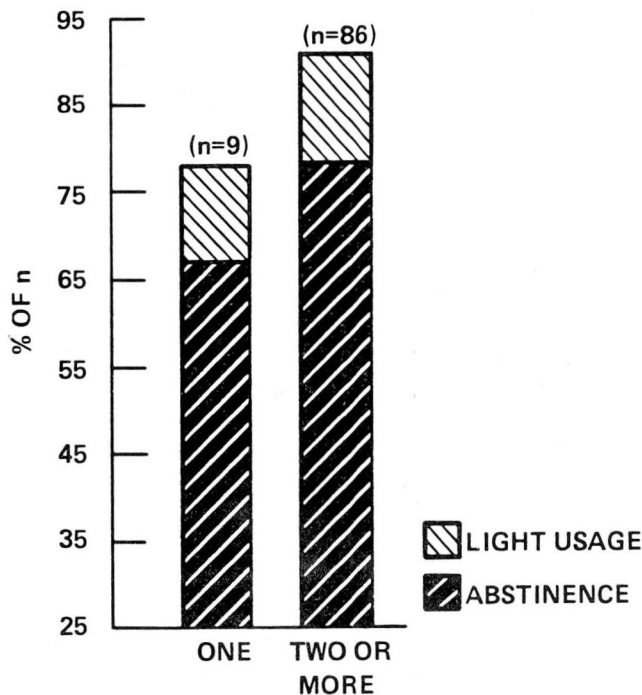


Fig. 6. Number of self-help meetings per week.

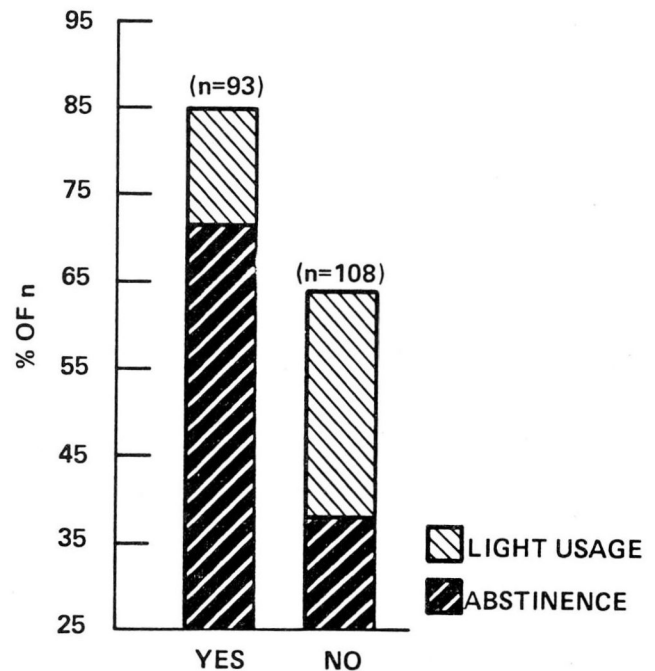


Fig. 7. Number of patients with a sponsor in Alcoholics Anonymous.

improvement. Disulfiram was used by only 7 patients, but (86%) of that group reported significant improvement. Spouse involvement in therapy or involvement in Al-Anon did not correlate with improved outcome. The order or sequence of treatment modalities was not evaluated. Generally, patients who reported using several of the recommended treatment modalities reported better chemical avoidance than those who used fewer modalities (Fig. 8). The treatment modalities recommended included evaluation, inpatient treatment, outpatient counseling with the ARP, AA, disulfiram, family therapy, Narcotics Anonymous, and Al-Anon. Surprisingly, 31 of 45 patients or 68.9% with minimal treatment (evaluation only and AA) did well. Of 31 who elected "evaluation only," 14 (45.2%) showed improvement.

The ARP has had good success regardless of marital status, although single and separated patients did not respond as well as others (Fig. 9). The ARP also has had good success regardless of employment status, with the exception of disabled patients. Especially favorable results were achieved among full-time Cleveland Clinic em-

ployees (79.3%) and housewives (91.7%) (Fig. 10). The success rate for all age groups was good except for reduced rates among the 21- to 30-year-old group (Fig. 11).

Social class was determined by the method of Hollinshead and Redlich<sup>1</sup> according to occupation and educational level. Figures 12 and 13 show post-treatment alcohol and drug use by social class. Class 5 (lowest) had the poorest outcome for alcohol abusers, and classes 4 and 5 (lowest two classes) had the poorest outcome for drug abusers.

Figure 14 demonstrates a strong correlation between post-treatment drinking pattern and self-reported degree of improvement of the patient. Ninety-four percent of patients who reported being "much better," and 86% who reported being "better" were in the "abstinence or light usage" group, while only 47% who reported being the "same," and 17% who reported being "worse" were in the "abstinence or light usage" group.

Figure 15 shows a correlation between self-report of overall improvement and the number of treatment modalities used. The use of more

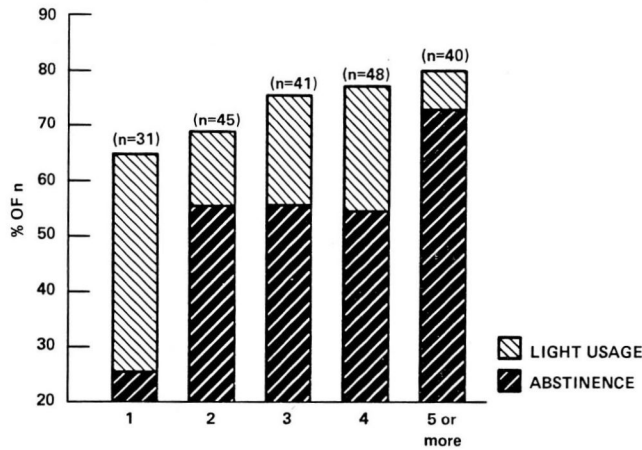


Fig. 8. Number of treatment modalities used by patients.

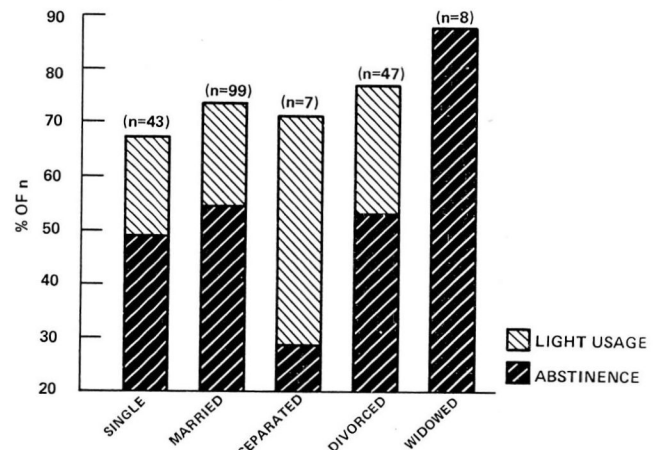


Fig. 9. Marital status of patients.

treatment modalities appears to be correlated with clinical improvement.

In correlating the length of time in treatment with clinical improvement, it appears that during the first three months of treatment, all patients reported improvement. Beyond three months, the degree of improvement bore no correlation to the length of time in treatment.

**Discussion**

After 18 months of operation, the Cleveland Clinic ARP undertook this follow-up study despite several previously reported methodological problems common to alcoholism treatment studies. Voris<sup>2</sup> noted the confounding factors of uncertain success criteria, questionable validity of self-report, and inability to locate subjects for follow-up. In the Cleveland Clinic study, treatment "success" was ascertained through both "hard" measurements of outcome, such as abstinence or frequency of use, and "soft" measurements such as ratings of job performance and overall improvement. The unique stability of the Cleveland Clinic patient population made it possible for outcome data to be obtained on 89% of patients, with a high degree of corroboration and cross-validation.

Our findings indicate that the ARP appears to be beneficial to most patients. Even when considering those patients with missing data as treatment failures, the ARP shows a favorable success rate. If absolute abstinence is the criterion for success, the ARP can report 47.4% of patients as

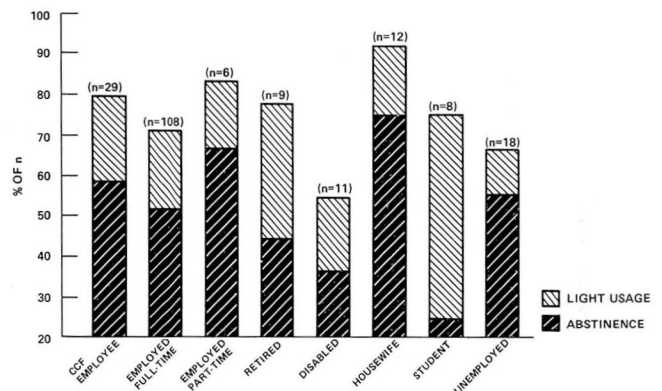


Fig. 10. Employment status of patients.

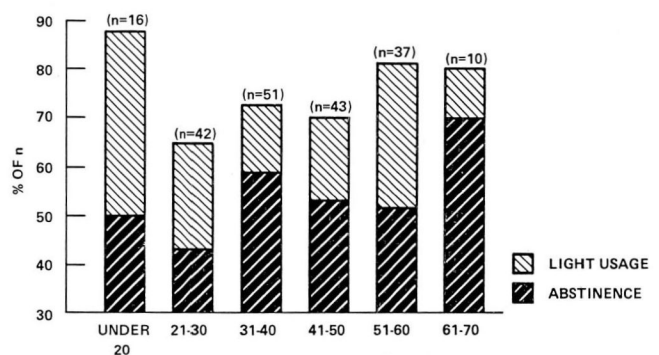


Fig. 11. Age at entry into the Cleveland Clinic Alcohol Rehabilitation Program.

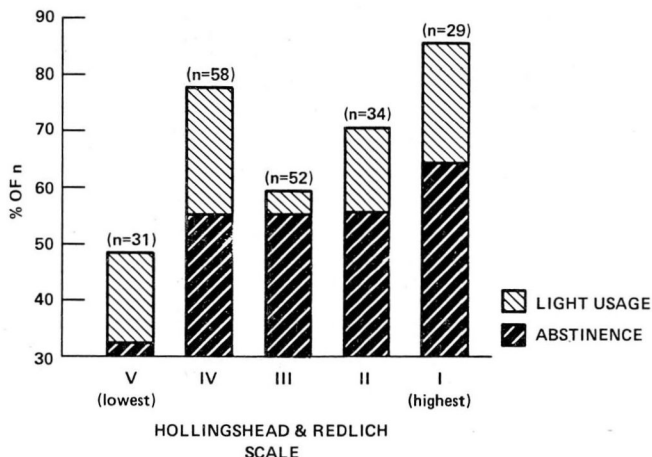


Fig. 12. Post-treatment drinking pattern by social class.

totally abstinent from alcohol and 70.3% of patients as abstinent from drugs. If light, rare, nonproblematic use is included with abstinence as the criterion for success, 65.1% of alcohol abusers and 78.4% of drug abusers had a favorable outcome.

In a review of the literature, Emrick<sup>3,4</sup> reported an overall abstinence rate of 33% after 12 months. Neubuerger et al<sup>5</sup> reported 52% abstinent after one year of 1,245 patients treated. Armor et al<sup>6</sup> indicated that only 10% to 24% of treated alcohol abusers reported at least six months of alcohol abstinence 18 months after finishing treatment. In comparison, the ARP of the Cleveland Clinic appears to be working favorably. Subjectively, 71.7% of the patients treated in the ARP reported being "better" or "much better," and 74.5% of those employed reported "good" or "very good" job performance

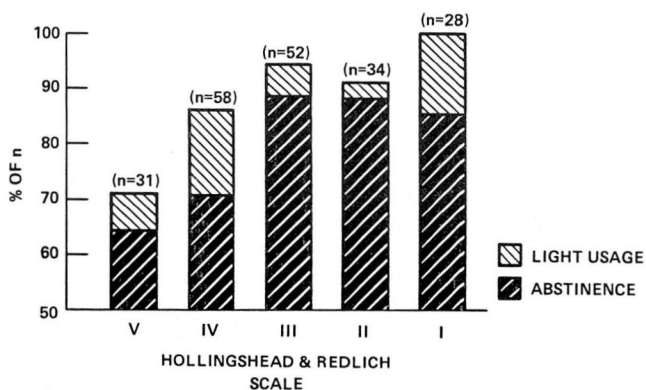


Fig. 13. Use of drugs other than alcohol by social class.

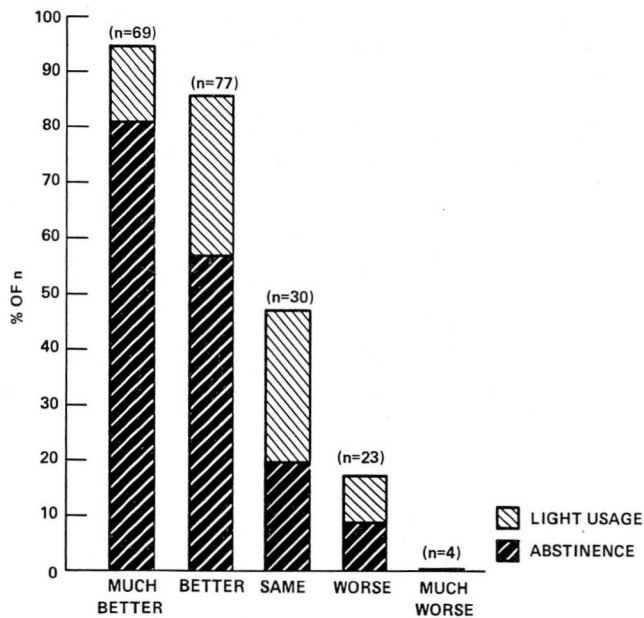


Fig. 14. Self-reported degree of overall improvement.

since treatment. Self-report of overall improvement was highly correlated with chemical abstinence or avoidance.

Since patients were not randomly assigned to different treatment modalities in this study, comparisons between treatments are not possible. Nonetheless, positive outcomes were associated with active participation in treatment. Patients who used five or more treatment modalities had

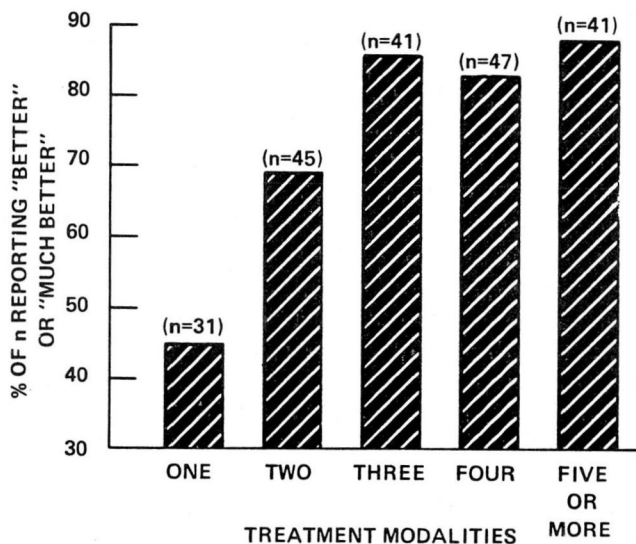


Fig. 15. Number of treatment modalities used by patients.

88% positive outcomes. Either more treatment is better or better-motivated (and more active) patients have better outcomes. Treatments that correlated with positive outcomes included inpatient rehabilitation, outpatient therapy, current activity in AA, having an AA sponsor, and taking disulfiram. Outpatient aftercare counseling was associated with improvement in 80.4%, which supports the finding of Walker et al,<sup>7</sup> who reported 70.2% abstinence with aftercare versus 23.4% without such support. Dramatic results were achieved in patients who attended AA and other self-help programs. The value of self-help programs has been previously reported by Alford,<sup>8</sup> and Giannetti.<sup>9</sup>

Overall, this outcome study demonstrates that the Cleveland Clinic ARP, with its multimodality approach, is highly effective in helping people achieve stable avoidance of drugs or alcohol.

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