#132

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IMPROVEMENTS IN THE COMMUNITY-REINFORCEMENT APPROACH TO ALCOHOLISM

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Summary—This study evaluated a modified Community-Reinforcement program for treating alcoholics. The previously tested Community-Reinforcement program included special job, family, social and recreational procedures and was shown to reduce alcoholism. To increase the effectiveness of the program further, the present study incorporated a Buddy system, a daily report procedure, group counseling, and a special social motivation program to ensure the self-administration of Disulfiram (Antabuse). The alcoholics who received the improved Community-Reinforcement program drank less, worked more, spent more time at home and less time institutionalized than did their matched controls who received the standard hospital treatment including Antabuse in the usual manner. These results were stable over a 2-year period. The program appeared even more effective and less time-consuming than the previous program. The present results replicate the effectiveness of the Community-Reinforcement program for reducing alcoholism and indicate the usefulness of the additions to the program.

INTRODUCTION

A new method for treating alcoholics has been developed recently (Hunt and Azrin, 1973). This Community-Reinforcement procedure was based on a social learning theory model and consisted of the rearrangement of significant personal and community based reinforcers. Using a matched-control design, the study found that the percentage of (1) time spent drinking was 6 times greater for the control group, (2) time spent unemployed was 12 times greater for the control group, (3) time away from one's home was twice as high for the control group and (4) time spent institutionalized was 15 times greater for the control group, all as compared to the Community-Reinforcement group. This substantial effectiveness of the Community-Reinforcement program continued over a 6-month follow-up.

The Community-Reinforcement program contained four separate components each of which provided satisfactions that would interfere with drinking. (1) The counselor placed alcoholics in jobs which had characteristics that interfered with drinking such as being full-time, steady, satisfying and well-paying. (2) Marriage and family counseling procedures were used which increased the alcoholic's satisfactions in his marriage or family such that he would be involved more continuously and pleasurably in family activities. (3) A self-governing social club for abstinent alcoholics was organized for providing the clients with enjoyable social events especially during the evening hours and on weekends. (4) The alcoholic was primed into engaging in pleasurable hobbies and recreational activities that would provide an alternative to drinking.

Still some problems existed. One major problem was that few of the clients remained totally abstinent, but rather, experienced temporary lapses in which they started to drink. Some of these slips seemed to result from some temporary crisis such as a loss of a job or from some short-term impulse. One method of overcoming these short-term, impulsive slips is the drug Disulfiram (Antabuse) which reacts with alcohol to create an adverse physical reaction. The use of Antabuse as part of the treatment program would, therefore, eliminate impulsive drinking since the former alcoholic would be

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required to wait about a week after discontinuing the Antabuse before he could begin drinking again.

Antabuse has been available as a treatment for alcoholism and has undergone extensive clinical usage (Fox, 1967; Lundwall and Bakeland, 1971). However, a major problem with the use of Antabuse is the frequent reluctance of alcoholics to accept this medication. Billet (1964) noted the large number of dropouts that occur in Antabuse programs. The present program added special procedures for motivating and training the clients to use the Antabuse.

Another problem that can exist in the previous program occurs because the lapse into drinking may not be caused by some short-term crisis or impulse but rather may be a signal that further adjustments are necessary in the program. A solution to this problem might be to have the former alcoholic report regularly to the counselor who has learned to identify signals that problems have occurred. The program was revised to include procedures which taught the client how to identify and handle such crisis danger signals and also to provide regular reports to the counselor about his adjustment in anticipation of such crises.

Another problem in the previous program was that some of the clients continued to make occasional demands on the counselor for assistance in their new non-alcoholic life style, such as advice on repairing an automobile which was necessary for their employment. This type of problem was often better handled by a non-professional counselor who was more conveniently located to the client. The present program arranged for a 'Buddy' in the client's neighborhood to provide this advice.

Another general problem in the previous procedure was the duration of time needed for counseling. The new procedure reduced this problem by utilizing group counseling in which several alcoholics were counseled at the same time.

A question that was not answered in the previous study was whether the results with the new procedure were unique to the single counselor who provided the counseling. The present program used three different counselors to determine whether the benefits of the new program could be obtained by several different counselors.

In summary, the present study extended the previous Community-Reinforcement program for alcoholism by (1) the use of Disulfiram to inhibit impulsive drinking, (2) special motivational procedures for the continued usage of the Disulfiram, (3) the use of an early warning notification system to alert the counselor that problems were developing, (4) the use of a neighborhood friend–advisor to continue social support of the client after professional counseling had been terminated, (5) group counseling procedures to reduce the amount of counseling time per client and (6) the use of different counselors to determine the ability of different counselors to use the new procedure. As in the previous study, the experimental design employed random assignment of one member of each matched pair of clients into a control group.

METHOD

Subjects and design

Twenty men who had been admitted for alcoholism treatment at a State Hospital were offered the chance to participate in this study. The criteria for selection were (1) an extensive record of alcoholism, (2) physiological symptoms of withdrawal from alcohol upon admittance, (3) availability, (4) capability of being matched with another currently hospitalized alcoholic, (5) between 20 and 60 years old, (6) residing within an hour's drive from the hospital. They were told that some would be randomly selected to receive a special community-based program which involved Antabuse and social and family counseling. The progress of all would be followed. The persons who were not selected would receive the regular hospital program. All twenty men agreed to participate. (One dropped out one week afterwards. He and his matched control were not used in the data analysis).

The clients were matched on the basis of a life-adjustment score that summed the score on each of five scales (5 points each) in each of the five areas of job satisfaction, job stability, family stability, social life and drinking history. A match required no more than two points difference in the total score; the ratings were done by four different counselors. Also, unanimous subjective agreement of the four counselors was a requirement that a match was warranted. A coin flip in the presence of three persons determined which member received the Community-Reinforcement counseling. The clients were assigned to the counselors on the basis of geographic location.

The clients in the control condition received the same housing, and other hospital services from other counselors but did not receive the Community-Reinforcement procedures. The control clients received instruction regarding alcoholism and its dangers, individual and group counseling, advice to take Antabuse, and encouragement to join an Alcoholics Anonymous group.

Reliability

During the counseling program, the three counselors from the Community-Reinforcement program maintained contact with both members of each pair and, for the purposes of increasing the validity of client self-report, at least one other person associated with each alcoholic, usually the wife and employer. The contact intervals varied between 4 times per week to once every 4 weeks with the median being once every two weeks. The regular information which was obtained by the counselor consisted of a day-by-day self-report on a 4-point rating scale for the areas of Antabuse administration, drinking, social life, family life and employment. If any doubt existed about the validity of the client's self-report, the counselors questioned the client until assurance was obtained. To obtain a measure of reliability, an independent follow-up survey was completed by a research assistant hired expressly for this task. The assistant was unaware of the nature of treatment, or of the nature of the research, but was instructed that follow-up information of former hospitalized patients was to be gathered. The reliability of all reports was greater than 95%.

Job counseling

All of the clients were given intensive job counseling, using the same procedure as in the previous Community-Reinforcement Program. This job-finding counseling is described in a separate report in more detail (Azrin, Flores, and Kaplan, 1975). Some of the distinctive features of this type of job counseling were that it emphasized personal contacts, was done in a group setting, involved exchange of job leads among job-seekers, and was monitored closely in all feasible respects by the counselor. Relevant to the objective of counseling alcoholics, the type of jobs sought were those that were full-time, permanent, satisfying, well-paying and performed in a highly visible social contact.

Marital counseling

Marital counseling was given to all of the married alcoholics, including those who were separated or contemplating divorce. The procedure used was the same as had been used in the previous Community-Reinforcement study and is described in more detail in a separate report on that procedure (Azrin, Naster and Jones, 1973). Some of the major features of this special marital counseling were that all areas of the marriage were counseled, both husband and wife were present, satisfactions were maximized for both partners, and the granting of satisfactions to a partner was done in the context of reciprocal satisfactions being received from that partner. Most relevant to the alcohol treatment, the wife of the alcoholic always included as one of her requests that her partner be totally abstinent from alcohol and that he request her to help him in doing so, including assisting him in taking his Disulfiram each day. As in the previous program 'synthetic families' were arranged with a friend or employer for the unmarried clients and behavioral counseling provided for the client and its members.

Resocialization

The resocialization procedures were for the purpose of arranging for the client to have a happy and satisfactory social life with persons who would encourage him to remain sober. The problem which was presented by this objective was that most clients did not enjoy interactions with many social groups such as church and civic organizations where sobriety might be encouraged. More appropriate and enjoyable social companions were persons who had previous drinking problems but were presently maintaining their sobriety. One semi-formal association which met this criteria already existed, Alcoholics Anonymous. Thus, the clients were encouraged to attend AA regularly and special efforts were made to insure that the clients sampled AA at least once or twice. However, AA seemed to have certain limitations in the area of resocialization because meetings usually were held during the week, excluded non-alcoholics and did not especially facilitate general social and recreational interactions. Consequently, a special self-governing social club for alcoholics (Hunt and Azrin, 1973) was formed which met on the weekend and included activities such as card playing, dancing, picnics, pot-luck dinners and other recreations for both alcoholics and non-alcoholic guests.

Recreational activities

The alcoholic clients were encouraged and assisted in developing hobbies and recreations of their choice which would insure their continued motivation to remain sober (See Hunt and Azrin, 1973).

Problem-prevention rehearsal

To teach the client how to handle situations which, in the past, had led to drinking, he was given instructions and rehearsal during the counseling. First, he was asked to review all of those situations which, in the past, had created an urge to drink, such as an argument with his wife, children, employer or friends, or loss of his job or seemingly unjust accusations by police. He then acted out the scenes that typified these interactions and was given instruction and behavioral rehearsal in handling them more adaptively. Behavioral rehearsal was also used after a stressful problem occurred as instruction for prevention of similar problems in the future.

Early warning system

A recurring problem in treatment had been that the client began drinking after some very stressful occurrences of which the counselor had been unaware. To keep the counselor or the peer advisor informed on a regular basis, the clients mailed a Happiness Scale to him each day. This scale was a normal part of the marital counseling procedure (Azrin, Naster and Jones, 1973) and involved the rating by both the client and his spouse of their happiness in each of 10 areas of their life. Both the client and his spouse exchanged their scales, and initialed each others scale before sending them to the counselor. A modified scale was used for the non-married client.

The Antabuse procedure

The distinguishing feature of the present Antabuse program was the special social arrangements for ensuring that the clients would find Antabuse therapy acceptable and convenient for use over a period of several months. These procedures were developed as a result of a common question: 'If Antabuse is so good why doesn't everybody use it?' It appeared that Antabuse was not used as often as it could be because the clients (1) viewed it as a 'crutch' which implied that the client suffered from a lack of character or will power; (2) viewed it as a coercive weapon which was used against them to force sobriety on them; (3) had not established the use of Antabuse as a regular 'habit'.

The first two problems were solved by teaching the client to view Antabuse usage in a positive manner. A central procedure in teaching this new viewpoint was that the client asked someone, usually the spouse, to help him remain sober by monitoring

his Antabuse every day. Thus, instead of a 'watchdog' with a coercive weapon the monitor was viewed as a 'helper' or caring friend. Another new viewpoint that was taught was that Antabuse functioned as a chemical time-delay device which gave the client time to think over a decision rather than act impulsively. Also, since the wife's involvement was a crucial part of the procedure, and their mutual dependency is usually a new notion to them, she was instructed to rehearse all of the reasons that she should be involved with giving him the Antabuse, such as his sobriety meaning more happiness, work and money for her.

Several procedures were used to ensure that Antabuse would become a firmly established habit: (1) the time for taking Antabuse was linked to an already well-established habit or event such as mealtime, brushing one's teeth, or arriving home from work; (2) The spouse was involved in the administration of Antabuse each day so that she could remind him if he forgot, and if he should stop taking Antabuse she could notify the counselor so that pre-crisis therapy could occur; (3) Since the Antabuse routine was usually broken during interruptions such as vacations, weekends, sickness, running out of Antabuse supply, deaths in the family, and others, special counseling and rehearsal were given prior to, or during these events as to how to continue the 'Antabuse habit' in spite of these potential interruptions; (4) To assure that the client received social support, he was to take the Antabuse only in the presence of his wife, peer advisor, or counselor. Every counseling session was initiated by having the client take the Antabuse pill which he did by mixing the pill into a preferred beverage such as coffee; (5) To assure ease of obtaining and using Antabuse, the counselor either referred the client to a physician who was knowledgeable and sympathetic regarding the use of Antabuse, or the counselor directly contacted the client's family physician and explained the role of the Antabuse in the counseling program.

Group counseling

The clients were counseled in a group, rather than individually. The group usually included two to four clients, as well as their peer-advisors and spouses, depending on the type of counseling scheduled and the compatibility of the clients' schedules. The counselor continuously encouraged the clients to provide answers to each other's questions, to comment on each other's progress, to provide individualized examples supportive of the counselor's statements, and to promote social activities among the clients outside of the counseling sessions. After the intensive counseling period, these group sessions were continued at intervals of about every 2 months, often as a part of a picnic or other recreational events.

Buddy procedure

Arrangements were made for each client to have a peer-advisor who would meet with him regularly and provide advice and encouragement. The goal was to select a peer-advisor with the following characteristics: He should be a former alcoholic, have been sober for at least a year, reside near the client, or have been a former client in this program, be similar in age and social-economic status to the client, desire to help the client and be respected by the client, and agree to meet regularly with the client and to report regularly to the counselor. Regular meetings were arranged between the advisor and the alcoholic. In these meetings, the new client and the advisor discussed ways of solving problems that were pressing and relevant to staying sober, such as those of dating or having a place to go with dates, income tax, obtaining an automobile license and making new friends.

The contracts

Written contracts were used to formalize the agreements between the clients and the counselors for all of the major procedures. These contracts were signed statements describing the assignment each person agreed to complete, the target date, the reasons for following the procedures and what remediation procedures the client would take

than for the previous procedures reported in Hunt and Azrin (1973). The median counseling time was 50 hours for the previous procedures and 30 hours for the improved procedures. The mean percentage of time spent drinking by clients in the reinforcement groups was 14 per cent for the previous procedures and less than 2 per cent for the improved procedures.

All 7 of the married clients remained married even though all had suggested the possibility of separation or divorce in the initial counseling sessions and one client couple was actually separated for a brief period. A 'synthetic' family relationship with parents or relatives was arranged for the other two single clients.

The employment procedures rapidly secured jobs for all clients within 2 weeks of the instigation of the job-finding counseling. One client changed jobs twice during the 6-month period, using the employment procedures both times. After using the procedures a total of three times in 6 months, he was quite enthusiastic about their effectiveness. This 52-year-old client worked more during the months following treatment than during any comparable previous period for the 10 years prior to counseling.

All of the clients in the reinforcement group established, or reestablished, regular significant social relations with social groups which supported their sobriety. All of the nine attended at least two AA meetings, at least one of the meetings at the previously established social club for alcoholics, and over half attended these on a regular basis.

A more personalized description of the results may be obtained from the following illustrative case history of one of the clients whose history and treatment outcome was fairly typical.

ILLUSTRATIVE CASE HISTORY

Carl was legally married, but had been separated from his wife for six months. He had been hospitalized for alcoholism twice in the past, in addition to his current hospitalization. He had no close friends except for intimate 'drinking buddies'. He had not worked on a full-time basis during the last seven months. Carl was selected for the Community-Reinforcement Counseling. He took his Antabuse regularly, beginning with his stay in the institution. He obtained a job as a maintenance man in an apartment building that paid him $80.00 a week, which was more than he had ever earned previously. He enrolled in the special social club for alcoholics. Carl was persuaded to attempt to reinstate his marriage and received marital counseling with his wife who was also reluctant, but agreed to give it 'one more chance.' He was discharged from the institution immediately after obtaining the job, three weeks after his counseling had started. After his discharge, he continued taking the Antabuse with his wife's assistance for which he regularly thanked her. Carl drank only on one day during the year. He has worked full-time since his discharge except for one week when he changed to an even better job as a garage mechanic. He attended the social club about twice a month and also local Alcoholics Anonymous groups about once a month. He has reestablished old friendship and created new ones. The most frequent comment that he reports his friends making is that he seems like a completely new man. The peer-advisor that was living about two miles away had maintained regular contact with him for the first few weeks, but they have not contacted each other during the last three months since he is able to seek out new advice regarding his problems from his wife, and his new friends and fellow employees.

DISCUSSION

The results showed that the improved Community-Reinforcement Program was much more effective than the control procedure as a treatment for the alcoholic clients. The Community-Reinforcement clients drank only one twenty-seventh as often as the control clients (2% of the time versus 55% of the time). The Community-Reinforcement clients were out of work less than half as much as the control treatment clients (20% of the

time versus 56% of the time). The Community-Reinforcement clients were institutionalized less than one-hundredth as much as the control treatment clients (0.1% of the time versus 45% of the time). The Community-Reinforcement clients were absent from their homes or synthetic homes only one-ninth as often as the control treatment clients (7% versus 67%). The post-treatment data of the control treatment clients demonstrates what a difficult population they were and what a poor prognosis they had. Even after the very intensive counseling provided in the control procedure, those clients were drinking 55% of the time, were unemployed 55% of the time, were away from their homes 60% of the time, and were confined to an institution 45% of the time. These results confirm the previous findings that the Community-Reinforcement Program is an effective method of treating alcoholic clients (Hunt and Azrin, 1973).

The improvements made in the Community-Reinforcement Program resulted in greater effectiveness and greater efficiency. Whereas the previous program resulted in the clients drinking 14% of the time after treatment, the improved program resulted in drinking only 2% of the time. Whereas the previous procedure required 50 hours for the average client, the improved Community-Reinforcement Procedure required only 30 hours.

The treatment procedure was used equally effectively by each of three different counselors, thereby demonstrating the efficacy of the procedures in spite of the inevitable individual differences in style between counselors.

The benefits to the clients were not transient. The 2-year follow-up showed that the initial benefits were maintained.

Several methodological difficulties have existed in interpreting the results of previous studies such as high drop-out rates, reliance on self-report of the client, the non-availability of a comparable control group, absence of follow-up data, etc. These methodological deficits have been so extensive (Miller, Pokorny, Valles, and Cleveland, 1970) that reviews of past evidence have concluded that no treatment for alcoholism has been shown to be effective (Hill and Blane, 1967; Wallgren and Barry, 1970). Very recently reinforcement-based treatments have emerged that have been effective and that do satisfy some of the methodological considerations (see review by Miller and Barlow, 1973). The present study also attempted to solve these very difficult methodological problems. A matched-control group with random assignment was used to ensure a comparable control group of clients for comparison. A separate observer was used who had no prior knowledge of which treatment the client had received; he obtained the data regarding drinking, working, etc. in addition to the corroborative data by family members, friends, employers, etc. The whereabouts of each client were pursued sufficiently to obtain the data regarding their adjustment for at least 24 months for all clients thereby providing the follow-up data. The procedure included methods of monitoring the clients and thereby prevented early drop-outs after treatment initiation.

The general approach of this improved method, as well as the initial method, is to rearrange the alcoholic's social environment such that other more reinforcing activities compete with drinking behavior. The client then is motivated to reject alcohol as a reinforcer because of the resulting loss of so many other reinforcers. In achieving this objective, the present method relied heavily on reinforcement and behavioral counseling procedures used for other problems such as identifying and maximizing reinforcers, reinforcer sampling and response priming (Ayllon and Azrin, 1968), reinforcement for competing reactions (Azrin and Nunn, 1973), structuring the learning setting, role-playing, negative consequences for the undesired response of drinking (Azrin and Holz, 1966), behavioral family counseling (Azrin, Naster and Jones, 1973), behavior rehearsal peer support (Azrin and Nunn, 1973) and reinforcement contracting (Sulzer, 1965). The primary objective was to use a counseling 'package' which would be effective rather than a single type of procedure. Each of the component procedures was conceptually based on a reinforcement approach and standardized in its usage.

A recent development in the reinforcement therapies has been to teach alcoholics to control their drinking rather than to attempt total abstinence (Sobell and Sobell,

1973; Hedberg and Campbell, 1974). The present program is compatible with either objective except for the Antabuse Procedure which must be omitted if the treatment goal is to achieve controlled drinking since even small amounts of alcohol will produce a reaction after taking Antabuse. The results of the previous Community-Reinforcement program which did not use Antabuse (Hunt and Azrin, 1973), suggests that the controlled drinking can be achieved by this approach even if the Antabuse is omitted.

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