

Self-help activities in cocaine dependent patients entering treatment: results from the NIDA collaborative cocaine treatment study

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Abstract

Although little is known about self-help attendance among cocaine dependent patients, clinicians frequently recommend this treatment. Cocaine dependent patients (519) entering a psychotherapy study were therefore surveyed regarding their recent self-help group attendance and participation. During the previous week, 34% had attended a self-help group. Of self-help attenders who actively participated, 55% initiated abstinence within the next month, compared with 40% of non-attenders and 38% of non-participating attenders ($P < 0.01$). These findings support the potential short-term positive prognostic significance of self-help attendance and participation in cocaine dependent patients.

Keywords: Cocaine; Drug Abuse; Self-Help; Substance Abuse; Treatment

1. Introduction

Numerous authors (Chappel, 1991; Galanter and Pattison, 1984; Washton, 1989) have argued that self-help groups, particularly those with a twelve-step orientation, play an important role in the treatment of alcohol and drug dependent patients. Indeed, the majority of alcoholism rehabilitation programs in the United States emphasize treatment methods based on or strongly influenced by the principles of Alcoholics Anonymous (Boscarino, 1980; Tournier, 1979). Alcoholics Anonymous (AA) has been widely studied from a variety of perspectives; two major areas of

research have included the characteristics of its members and its therapeutic effectiveness, either alone or in combination with professional treatment (Emrick, 1989). Although these studies have yielded contradictory findings, some previous research has suggested that AA is more attractive to and perhaps more helpful for certain populations of alcoholics (Emrick, 1989). Moreover, there is some evidence that frequency of AA attendance (Hoffman et al., 1983; Pettinati et al., 1982) and degree of AA participation (e.g. speaking at meetings, obtaining a sponsor, reading AA literature, etc.) (Sheeran, 1988) may correlate with treatment outcome in alcoholics.

Alcoholics Anonymous has spawned a number of similar groups, including Narcotics Anonymous, Cocaine Anonymous, and others. In addition, groups have formed that embrace the concept of self-help

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while eschewing the twelve-step philosophy (e.g. Rational Recovery). Although some authors have argued for the importance of such groups as Narcotics Anonymous (NA) and Cocaine Anonymous (CA) in the treatment of patients with cocaine dependence (Cocores, 1991; Washton, 1989), the adaptation for cocaine dependent patients of the twelve-step self-help model has also been the subject of some criticism. Rawson et al. (1991), for example, have argued that this model was adopted unquestioningly in the 1980s by many substance abuse treatment programs, without evidence that this approach was appropriate for this new patient population. Indeed, there has been some criticism of the overreliance on Alcoholics Anonymous-based ideology in the treatment of patients with alcohol dependence (Ogborne, 1989). It is therefore crucial to accumulate data on the efficacy of this approach with cocaine dependent patients.

We are aware of only one study of cocaine dependent patients that has examined the frequency of their actual participation in self-help activities. Rawson et al. (1991) found that only 30% of patients in an outpatient program and 40% of patients recently discharged from an inpatient program in Southern California participated in twelve-step groups, despite strong encouragement from each of the treatment programs involved. We are aware of no studies that have examined the relationship between self-help attendance, degree of participation in self-help groups, and treatment outcome.

Therefore, in the context of a multicenter collaborative study comparing different forms of psychotherapy and drug counseling for outpatients with cocaine dependence, we have undertaken a study of self-help group attendance in this population. For this study, we were specifically interested in self-help group attendance prior to entering the study, so that our findings would not be confounded by the possibly differential effects of our various treatments on self-help attendance. Our research questions were as follows:

- (1) What is the frequency and nature of self-help group attendance among cocaine dependent individuals? Which groups do they attend most, and what is their degree of participation?
- (2) How do people who attend self-help groups compare with individuals who do not attend, on characteristics such as sociodemographic status and severity of drug use?
- (3) Does pre-treatment self-help group attendance or degree of participation (e.g., speaking at meetings, calling one's sponsor, etc.) predict the likelihood of initiating abstinence within 30 days?

2. Method

2.1. *Setting and sample*

This study was carried out in the context of the pilot phase of the National Institute on Drug Abuse Collaborative Cocaine Treatment Study, which was designed to compare the effectiveness of four different treatments for cocaine dependent outpatients. (1) Supportive-expressive psychotherapy (Mark and Luborsky, 1992) plus Group Drug Counseling (GDC) (Mercer et al., 1994). (2) Cognitive therapy (Beck et al., 1993) plus GDC. (3) Individual drug counseling (Mercer and Woody, 1992) plus GDC and (4) GDC alone. The study, now in its main phase, is being conducted at five sites: the University of Pennsylvania, Philadelphia (Penn); Western Psychiatric Institute and Clinic, Pittsburgh (WPIC); Brookside Hospital, Nashua, New Hampshire; McLean Hospital, Belmont, Massachusetts; and Massachusetts General Hospital, Boston (MGH). Patients eligible for the pilot study met DSM-III-R criteria for cocaine dependence, had used cocaine at least once during the previous 30 days, and had a stable postal address at the time of the initial screening. Individuals were excluded from participation if they (a) met criteria for current opioid dependence, (b) planned to continue or required additional ongoing psychopharmacologic or psychological treatment, (c) had a history of bipolar, psychotic, or organic mental disorder, (d) were acutely suicidal or homicidal, (e) had an unstable medical condition, (f) were at high risk for imminent incarceration, (g) were mandated to treatment by the legal system, (h) were over 3 months pregnant, (i) had been hospitalized for cocaine use for more than 10 days in the previous month, or (j) planned to leave the area within the next 2 years. After complete description of the study to the patients, written informed consent was obtained.

After an initial screening, all patients initially entered a 'stabilization period,' during which they met with a drug counselor for 30 min, 2–5 times a week (depending upon clinical need and scheduling considerations) and attended a 90-min drug counseling group, which was held twice a week. Urine toxicological screens were collected two or three times a week, depending on frequency of visits. Patients had to produce three consecutive negative (i.e. drug-free) urine screens within 30 days of entering the stabilization period in order to be accepted into the randomized trial; if they did so, they were randomly assigned to one of the four experimental treatment conditions listed above. Patients who failed to do so within this allotted time period were not randomized, and were terminated from the study.

Table 1
Pretreatment subject characteristics by site

Characteristics	Brookside (n = 147)	MGH (n = 119)	McLean (n = 54)	Penn (n = 88)	WPIC (n = 111)
White ^a (%)	95.7	58.8	88.7	26.8	18.2
Female ^b (%)	30.0	32.8	16.7	22.7	46.8
Employed ^c (%)	64.9	54.3	61.5	61.0	33.3
Religious affiliation (%)	80.9	76.3	79.2	79.6	78.9
Intranasal cocaine use ^d (%)	20.0	31.3	37.3	14.5	2.8
Cocaine smoking ^d (%)	77.1	67.8	58.8	79.7	96.3
Years used cocaine ^e	5.9	8.5	6.5	5.2	6.0
Dollars spent on cocaine last week ^f (mean)	217	211	401	148	71
Days used cocaine last month (mean)	11.0	9.8	12.2	11.3	9.6

Brookside, Brookside Hospital; MGH, Massachusetts General Hospital; McLean, McLean Hospital; Penn, University of Pennsylvania; WPIC, Western Psychiatric Institute and Clinic.

^a $\chi^2 = 236.39$, $df = 4$, $P < 0.00001$.

^b $\chi^2 = 21.09$, $df = 4$, $P < 0.0003$.

^c $\chi^2 = 28.00$, $df = 4$, $P < 0.00001$.

^d $\chi^2 = 50.25$, $df = 8$, $P < 0.00001$.

^e $F = 6.72$, $df = 4,462$, $P < 0.0001$.

^f $F = 6.48$, $df = 4,435$, $P < 0.0001$.

Data were collected on 519 consecutive patients who entered the stabilization period; they were predominantly Caucasian (58%), male (68%), and employed (54%). The patients had used cocaine regularly for a mean of 6.4 years (S.D. = 4.7); 78% used cocaine primarily by smoking, 19% used the drug primarily by the intranasal route, and 3% were injection users. The patients had used cocaine a mean of 10.6 days (S.D. = 8.2) in the previous month, and 2.3 days (S.D. = 4.4) in the previous week; they had spent a mean of \$184 (S.D. = 381) on cocaine during the previous week. The mean severity score on the Drug Use Subscale of the Addiction Severity Index (McLellan et al., 1992) was 0.24 (S.D. = 0.07).

Table 1 compares pretreatment characteristics of the patients across the five sites, showing some important differences. Racial composition varied from a primarily white population at Brookside to a patient group with very few whites at WPIC and the University of Pennsylvania. WPIC had the most women, the lowest employment rate, the highest percentage of primary cocaine smokers, and the smallest amount of money spent on cocaine during the previous week. McLean had the fewest women, the fewest cocaine smokers, and the greatest amount of money spent on cocaine during the last week. Mean years of cocaine use varied from a high of 8.5 at Massachusetts General Hospital to a low of 5.2 at the University of Pennsylvania. There were no site differences in religious affiliation, number of days of cocaine use in the previous month, or frequency of cocaine use by injection.

2.2. Assessments

Patients were identified as meeting DSM-III-R criteria for current cocaine dependence by using the Structured Clinical Interview for DSM-III-R (SCID) (Spitzer et al., 1992); this was administered by master's or doctoral-level diagnosticians, all of whom had been selected by the Assessment Unit of the University of Pennsylvania Center for Psychotherapy Research; diagnosticians received biweekly supervision from the Assessment Unit via conference calls, on which diagnostic guidelines for this population were discussed.

Sociodemographic and substance use history data were obtained with the Addiction Severity Index, 5th edition (McLellan et al., 1992), and an initial screening interview devised for this study; both were conducted by research assistants or the study diagnosticians.

Information regarding self-help activities was gathered through use of the Weekly Self-Help Questionnaire (see Table 2). We developed this self-report questionnaire to monitor the frequency and type of self-help meeting attendance (e.g. AA, NA, CA, and non-12-step meetings such as Rational Recovery), as well as the degree of participation in self-help activities (presence or absence of a sponsor, performing duties or speaking at meetings, talking on the telephone with or meeting one's sponsor or other members, reading self-help literature, or working on the steps) during the previous week. The items selected for inclusion were derived from a review of the relevant literature, interviews with patients and staff in our clinical programs who have personal experience

Table 2
Weekly self-help activities questionnaire

1. Do you have an Alcoholics Anonymous (AA) sponsor?	(0)	NO	(1)	YES
2. Do you have a Narcotics Anonymous (NA) sponsor?	(0)	NO	(1)	YES
3. Do you have a Cocaine Anonymous (CA) sponsor?	(0)	NO	(1)	YES

Please answer the following questions about your activities in the last week.

Please circle the number that corresponds to the total number of days in the past week that you:

4. Attended AA Speaker meetings.	0	1	2	3	4	5	6	7
5. Attended NA Speaker meetings.	0	1	2	3	4	5	6	7
6. Attended CA Speaker meetings.	0	1	2	3	4	5	6	7
7. Attended AA Step meetings.	0	1	2	3	4	5	6	7
8. Attended NA Step meetings.	0	1	2	3	4	5	6	7
9. Attended CA Step meetings.	0	1	2	3	4	5	6	7
10. Attended AA meetings at which you had duties (make coffee/setup, etc.).	0	1	2	3	4	5	6	7
11. Attended NA meetings at which you had duties (make coffee/setup, etc.).	0	1	2	3	4	5	6	7
12. Attended CA meetings at which you had duties (make coffee/setup, etc.).	0	1	2	3	4	5	6	7
13. Spoke at AA meetings.	0	1	2	3	4	5	6	7
14. Spoke at NA meetings.	0	1	2	3	4	5	6	7
15. Spoke at CA meetings.	0	1	2	3	4	5	6	7
16. Met with one or more AA/NA/CA members outside of a meeting.	0	1	2	3	4	5	6	7
17. Met with your sponsor(s) outside of a meeting.	0	1	2	3	4	5	6	7
18. Phoned your AA/NA/CA sponsor(s)	0	1	2	3	4	5	6	7
19. Were telephoned at least once by your sponsor(s)	0	1	2	3	4	5	6	7
20. Were telephoned at least once by other AA/NA/CA members.	0	1	2	3	4	5	6	7
21. Read AA/NA/CA literature for at least 5 minutes.	0	1	2	3	4	5	6	7
22. Actively worked on one or more of the steps. Write in which step(s):	0	1	2	3	4	5	6	7
23. Attended Rational Recovery (RR) meetings.	0	1	2	3	4	5	6	7
24. Attended Secular Organizations for Sobriety (SOS) meetings.	0	1	2	3	4	5	6	7
25. Attended Alanon meetings.	0	1	2	3	4	5	6	7
26. Attended Adult Children of Alcoholics (ACOA) meetings.	0	1	2	3	4	5	6	7
27. Attended Overeaters Anonymous (OA) meetings.	0	1	2	3	4	5	6	7
28. Attended Gamblers Anonymous (GA) meetings.	0	1	2	3	4	5	6	7
29. Attended other self-help meetings.	0	1	2	3	4	5	6	7
Please specify:								

with self-help groups for substance abuse, and interviews with substance abuse counselors with extensive experience treating patients who have attended 12-step groups. The questionnaire, which was filled out at intake and weekly thereafter, takes approximately 5 min to complete.

2.3. Data analysis

Statistical significance was assessed using the chi square test for categorical data. A two-tailed Student's *t*-test for independent samples was used to compare means.

3. Results

3.1. Psychometric properties of the weekly self-help questionnaire

Internal reliability of the Weekly Self-Help Questionnaire was assessed in three ways: for AA items,

NA items, and CA items. The 12 AA items included the 5 AA-only items (1, 4, 7, 10, 13) and the 7 general 12-step items (16–22); the 12 NA items included the 5 NA-only items (2, 5, 8, 11, 14) and the 7 general 12-step items; and the 12 CA items included the 5 CA-only items (3, 6, 9, 12, 15) and the seven general 12-step items. All three showed high internal consistency: Cronbach's alpha was 0.81 for AA, 0.85 for NA, and 0.78 for CA. Further evidence of strong internal reliability was provided by the finding that the deletion of any single item altered the alphas by less than 0.06.

To see whether or not the items were clustered, an exploratory factor analysis was conducted. Three factors emerged for AA, which could be labeled 'work performed at meetings' (items 1, 4, 7, 10, 13), 'interpersonal work performed outside of meetings' (items 16–20), and 'work performed alone and outside of meetings' (items 21 and 22). These three factors together accounted for a high percentage of the variance: $R^2 = 62.0\%$, with eigenvalues of 1.89 for 'work performed at meetings' ($R^2 = 15.8\%$), 4.26 for 'interpersonal work performed outside of meetings'

($R^2 = 36.3\%$), and 1.19 for 'work performed alone and outside of meetings' ($R^2 = 9.9\%$).

3.2. What is the frequency and nature of self-help attendance among cocaine dependent individuals? Which groups do they attend most, and what is their degree of participation?

Of the 519 respondents who completed the Weekly Self-Help Questionnaire at intake, 34% ($n = 175$) reported that they had attended at least one self-help group during the week prior to entering treatment. Among this subgroup, patients attended a mean of 4.2 meetings (S.D. = 3.8) during that previous week. Alcoholics Anonymous and Narcotics Anonymous meetings were attended most frequently (70 and 63%, respectively, among individuals who attended any self-help groups); only 13% went to Cocaine Anonymous meetings. A few attendance differences emerged by site: overall self-help attendance was higher at WPIC (48.6%) and Brookside (43.7%) than at McLean (27.8%), Penn (22.6%), and MGH (21.2%) ($\chi^2 = 31.25$, $df = 4$, $P < 0.00001$). Among the subgroup of attenders, patients at MGH, Brookside, and McLean were more likely to attend AA (88.0, 87.1, and 86.7%, respectively) than were patients at Penn (57.9%) and WPIC (38.9%) ($\chi^2 = 40.44$, $df = 4$, $P < 0.00001$). Conversely, attendance at NA was more common at WPIC (96.3% of self-help attenders) and Penn (84.2%) when compared with MGH (40.0%), Brookside (37.1%), and McLean (33.3%) ($\chi^2 = 66.52$, $df = 4$, $P < 0.00001$). Likelihood of self-help attendance did not vary by race, gender, or employment status. However, among those who attended self-help groups, whites were twice as likely as nonwhites to attend AA (87.4 vs. 48.6%; $\chi^2 = 30.67$, $df = 1$, $P < 0.00001$), while nonwhites were twice as likely as whites to attend NA (87.8% vs. 41.1%; $\chi^2 = 41.78$, $df = 1$, $P < 0.00001$). We were unable to statistically determine whether this reflected a racial difference or a site difference, since there were large differences in racial makeup between sites and little racial variation within sites (see Table 1).

Cocaine Anonymous attendance did not vary by site but was consistently lower than that for AA and NA. Attendance at self-help groups not based on a 12-step model (e.g. Rational Recovery and Secular Organization for Sobriety) was much less common; only 13 patients (3%) attended these meetings at all, and merely 3 (1%) attended these meetings exclusively. Since our measures of degree of participation were generally based on activities specific to 12-step meetings (e.g. having a sponsor), the latter three patients were not considered in our analysis of the data regarding degree of participation.

Most of the patients who attended self-help meetings (85%) actively participated in program activities in some

way. These activities included reading self-help literature (72%), meeting with other self-help group members outside of a group (56%), meeting with a sponsor outside of a meeting (15%), phoning one's sponsor (38%), working on one or more of the steps (38%), speaking at a meeting (28%), and performing duties (e.g. making coffee) at meetings (11%). Likelihood of participation among those attending self-help meetings did not vary by site.

3.3. How do people who attend self-help groups compare with individuals who do not attend, on characteristics such as sociodemographic status and severity of drug use?

Self-help group attenders and non-attenders were compared on a number of characteristics including gender, race, employment status, religion, and severity score on the Drug Use Subscale of the Addiction Severity Index. We found no significant differences on these variables except for religion. Respondents who reported a religious affiliation were more likely to attend self-help groups than those not reporting any religious affiliation (40 vs. 22%; $\chi^2 = 10.8$, $df = 1$, $P < 0.002$). The relationship between religion and self-help attendance did not vary by site.

3.4. Does pretreatment self-help group attendance or degree of participation predict the likelihood of initiating abstinence within 30 days?

Respondents were compared to see if attendance was related to initiation of abstinence within the ensuing 30-day period, as indicated by obtaining three consecutive negative urine screens. Fifty-one percent of self-help attenders initiated abstinence, while only 40% of people who did not attend self-help groups initiated abstinence ($\chi^2 = 5.9$, $df = 1$, $P < 0.02$). The relationship between self-help attendance and initiation of abstinence did not vary by site, according to a logistic regression analysis.

We then separated respondents into three categories: non-attenders, attenders who participated in some way, and attenders who did not participate. We defined 'participation' as either having duties at groups, speaking at groups, meeting with other group members outside of groups, meeting with one's sponsor outside of groups, telephoning one's sponsor, reading self-help literature, or working on one or more of the twelve steps. Separating respondents by participation status as well as attendance revealed that patients who attended meetings but did not participate were more similar to non-attenders in their likelihood of initiating abstinence; 38% of non-participating attenders initiated abstinence, compared to 40% of non-attenders and 55% of attenders who participated ($\chi^2 = 8.9$, $df = 2$, $P < 0.01$). No single measure of participation at self-help meetings

was related to likelihood of initiation of abstinence. Similarly, neither the number of different activities an individual performed nor frequency of meeting attendance or participation was related to likelihood of initiation of abstinence. Finally, since we had found that patients with a religious affiliation were more likely to attend self-help groups, we examined the relationship between religious affiliation and initiation of abstinence. We found that religious affiliation alone did not increase the likelihood of abstinence initiation; 47% of people with a religious affiliation initiated abstinence, as compared to 55% of patients without a religious affiliation ($\chi^2 = 1.6$, $df = 1$, n.s.).

4. Discussion

In this study of 519 patients entering a study comparing different psychological treatments for cocaine dependence, we found that approximately one-third of the population had attended at least one self-help group during the previous week. Attenders were significantly more likely to initiate abstinence during the ensuing month than were patients who attended no self-help groups.

Comparable studies of alcoholics, which have examined the prognostic significance of AA attendance prior to entering a treatment program, have yielded mixed results (Baekeland et al., 1973; Bebbington, 1976; McLatchie and Lomp, 1988). However, when a relationship between self-help attendance and outcome has occurred, it has generally been positive (Emrick et al., 1993), as we found in our study. Of course, it is difficult to disentangle the relative importance of actual self-help attendance from certain characteristics of those individuals who go to the meetings. Although we found that most sociodemographic characteristics were similar in attenders and non-attenders, it is possible that the willingness of patients to choose to attend self-help meetings and attempt to make personal changes may be a critical contributor to the process of initiating abstinence (Miller and Rollnick, 1991). Indeed, according to one model describing the process of change among individuals with addictive behaviors (Prochaska and DiClemente, 1992), patients who had attended self-help (and especially those who had actively participated) may be viewed as having already entered the 'action' stage of change, which is characterized by serious efforts to modify target problem behaviors. Patients who had not attended, on the other hand, might be described as being at an earlier stage, such as 'preparation,' which is characterized as making a plan for action.

The fact that non-participating self-help meeting attenders achieved abstinence initiation rates more similar to non-attenders than to active participants lends sup-

port to the idea that simply attending these meetings was not, by itself, critical. Rather, active participation was associated with a better outcome. Interestingly, neither the degree of participation nor the specific type of participation was associated with outcome, implying that any form of active participation in self-help meetings may be a good prognostic factor in this population. While our participation measure did differentiate between abstainers and non-abstainers, we may have committed a model specification error by overlooking other forms of participation that are more sensitive in differentiating between those who achieve abstinence and those who do not.

Only approximately one-third of the patients attended any self-help groups in the week before entering the treatment program; this figure is similar to the finding of Rawson et al. (1991). It is possible that this group of attenders viewed self-help meetings as offering insufficient help, which could argue for the potential role of professional treatment in addition to self-help. We plan to study further whether patients who were not initially attenders later went to self-help meetings after entering the treatment program.

The finding that people with a religious affiliation were more likely to attend self-help meetings is interesting, considering the spiritual dimension of twelve-step groups. However, religious affiliation itself did not increase the likelihood of initiating abstinence. The potential impact of the role of spirituality in self-help groups has been virtually unstudied (Miller, 1990); our finding, although preliminary, suggests the potential importance of conducting empirical research in this area.

The predominance of AA and NA attendance, when compared to CA, is striking in this population of patients with primary cocaine dependence. Although this finding may largely reflect a discrepancy among the availability of these respective meetings, targeting a specific drug may be less important for patients than the overall twelve-step approach. Indeed, we are aware of no studies that have compared the efficacy of drug-specific vs. generalized self-help groups.

Although overall self-help attendance did not vary by race, the preference among attenders for AA versus NA varied by site and by race. It is unclear to what extent these two factors influenced meeting choice because of the differences in racial composition between sites and the lack of racial variation within sites. Despite these variations, attendance at self-help meetings was consistently associated with initiation of abstinence. However, the possible relationship between race and preferred type of self-help meetings deserves more study.

Our study has provided some preliminary data on the frequency and nature of self-help attendance in this population, and the potential relationship between self-help attendance and short-term substance use outcome.

Potential limitations of the study include the fact that patients who signed up for this relatively rigorous 6-month study, with its attendant pre-randomization stabilization period, may have been a select group of patients with more motivation than other samples. Moreover, we gathered data on only 1 week of self-help group attendance, which may not be representative of longer-term attendance patterns. Lifetime attendance patterns would be useful in this regard. However, determining the potential prognostic significance of this variable (i.e. whether a cocaine dependent patient entering treatment is currently attending self-help groups) may still be an important line of inquiry. We plan to continue this research by studying the relationship of ongoing professional treatment, self-help attendance, and longer-term treatment outcome.

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