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Self-Help Program Components and Linkage to Aftercare Following Inpatient Detoxification

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Abstract

Many patients fail to initiate aftercare for addictive disease rehabilitation following detoxification. This study of 136 inpatients compared characteristics of those who initiated aftercare (behavior therapy or self-help programs) during the week following discharge with those who did not. Among this group of patients, 77% (91/119) linked to aftercare. Self-help treatment related components were associated with increased aftercare treatment attendance rates and included: having a copy of the “12 Steps” (81% vs. 46%, $P = .002$), having read self-help literature (73% vs. 42%, $P = .007$) and having telephone numbers of self-help program members (50% vs. 18%, $P = .008$). Those who initiated aftercare treatment were also more likely to have remained abstinent from drugs and alcohol (81% vs. 39%, $P < .001$). Having self-help treatment-related components were associated with increased rates of aftercare attendance following hospital inpatient detoxification.

Keywords

Detoxification; Aftercare; Alcohol; Drugs; Substance Abuse

INTRODUCTION

Detoxification is the beginning of treatment for many patients with substance use disorders, however, detoxification is not considered a stand alone treatment because detoxification is simply the medical management for the physiological effects of substance dependence. In addition to preventing and treating the symptoms and signs of withdrawal, the goals of detoxification are to promote continued abstinence and to initiate addictive disease rehabilitation treatment. It is this subsequent rehabilitation that leads to long term improvement.¹ Many patients, however, fail to initiate aftercare for addictive disease rehabilitation following detoxification. Previous studies have noted that rates of treatment initiation following detoxification ranged from 46% to 64%.^{2–7}

Methods are needed that would enhance linkage to addictive disease rehabilitation services following hospital discharge. Brief counseling appears to increase the percentage of patients who receive professional aftercare or attend self-help meetings following detoxification.^{8, 9} On general medical and surgical services, it has been observed that patients who received visits from peers in recovery (i.e., “12th Step Calls”) have an increased likelihood of initiating addictive disease treatment or self-help.¹⁰ It is not known if self-help related components (e.g., literature, telephone contact numbers, meeting schedules) that patients receive while

hospitalized for detoxification are associated with initiation of aftercare treatment or self-help following detoxification.

The purpose of this observational study was to determine if self-help related components were associated with aftercare treatment initiation in a group of patients admitted to an inpatient detoxification unit for medically managed treatment of alcohol or drug withdrawal. Specifically, we hypothesized that having self-help related treatment components would be associated with increased rates of aftercare treatment initiation.

METHODS

We conducted an observational study of a cohort of patients admitted to a hospital for medical managed detoxification from alcohol and/or drugs. The Institutional Review Board (IRB) at the sponsoring university and the Office of the Medical Director of the hospital reviewed and approved the study protocol.

Participants

The study population consisted of a sample of 136 from 159 consecutive admissions to an inpatient unit from June 7, 2006 through July 19, 2006, for the medical management of alcohol or drug withdrawal. Participants had to be at least 18 years old, able to understand spoken English, able to provide informed consent, have a residence (i.e., not homeless) and have a reliable contact person. Patient flow within the study is summarized in the Figure.

Setting

The detoxification unit is located in 550-bed public teaching hospital that serves a population of approximately two million people in the northeastern United States. There are approximately 1,400 to 1,500 admissions per year to this unit, which is equipped with 18 beds. It is the largest of three inpatient detoxification programs in the region, serves adults aged 18 years and older, and is staffed by four physicians who specialize in addiction medicine, one nurse practitioner, six chemical dependency counselors, and a varying number of nurses and other support staff. The goal of the detoxification program staff is to refer every patient to professional aftercare (e.g., outpatient, inpatient, residential) at the time of discharge.

Patients are evaluated by an addiction medicine physician and a chemical dependency counselor following admission and are subsequently seen every day by the physician and a counselor. These evaluations serve to guide medical management during detoxification and discharge planning. In approximately one out of every 10 patients, family members are involved in subsequent sessions with the counselors. Patients are required to attend one-hour group therapy sessions twice daily. Self-help meetings are available five days per week, where self-help related components were available, but patient attendance is not required. A benzodiazepine is typically used for alcohol or sedative detoxification, while buprenorphine is used for opiate detoxification. Dosages are administered based on the clinical assessment of withdrawal risk and severity. The typical length of stay is 3 to 5 calendar days.

Procedure

This was an observational study comparing patients who initiated aftercare (behavioral therapy or self-help programs) following detoxification with those who did not. Following admission to the detoxification unit, patients were approached by one of three medical students, not affiliated with the detoxification unit, and were asked to participate in a study about their outcomes following discharge. The patients who agreed were asked to sign two consent forms: one for their consent for study participation and another that would permit the abstraction of protected personal health information (PHI) from their medical records. Participants were

asked to provide the names, addresses and telephone numbers of three contact people in case the participant could not be contacted directly for follow-up. Participants were contacted by telephone 7 to 10 days following discharge to collect outcome data. If it was not possible to locate the participant, outcome data were obtained from one of their collateral contacts, the treatment agency to which they were referred, or the hospital medical records.

Baseline Data Collected

Participant baseline data were obtained from self-report or from the hospital medical records. These data included demographic information (age, gender, race, education level, employment status); type of health insurance; type of referral (self, family, treatment agency, law enforcement); addictive disease information (type of addictive disease, primary substance used, secondary substance used); and severity of disease information (age of first use and years of use for both primary and secondary substances, history of prior professional addictive disease treatment, reported heroin use and reported intravenous drug use).

Outcome Data

Primary outcomes included initiation of aftercare (professional behavioral therapy or self-help program participation) and self-reported complete abstinence from alcohol and drugs within one week following hospitalization for detoxification. Participants were contacted 7 to 10 days following discharge and were considered to have initiated aftercare if they either (a) arrived for at least one session at an outpatient addictive disease treatment facility; (b) were admitted to an inpatient addictive disease treatment facility (c) entered a residential addictive disease treatment program or “half-way house” or (d) attended at least one meeting of a self-help group (e.g., Alcoholics Anonymous [AA], Narcotics Anonymous [NA]). In addition, participants were asked questions regarding self-help treatment components, such as having telephone contact numbers of self-help group members, addiction-related self-help literature (e.g., pamphlets, books, a copy of the “12 steps” of AA, or 12-step program meeting schedules) and if they had read any of this literature since hospital discharge.

Data Analysis

Exploratory statistics were used to identify statistical outliers, which were then either verified or corrected against the original paper records. Fisher’s exact test or Pearson Chi Square was used for between-group comparisons of categorical variables. A two-tailed, independent t-test was used for continuous variables (i.e., age) in which equal variance was assumed. An alpha level of 0.05 was selected for all statistical tests. Given an alpha of 0.05 and an expected treatment initiation rate of approximately 50%, this study has 80% power to detect differences of 28% or greater. For analysis of continuous outcomes, this study has 80% power to detect an effect size of 0.61 or greater. Data analysis was performed with Statistical Package for the Social Sciences (SPSS) Version 14.0 (SPSS, Inc., Chicago, IL, 2005).

RESULTS

Participant Characteristics

Participant characteristics are summarized in Table 1. The 136 study participants were similar to the 23 who were not enrolled in terms of age, gender, race/ethnicity, primary substance, age at first substance use and average years of substance use (data not shown). Participants who were enrolled in the study differed from patients not enrolled in terms of having a high school diploma or equivalent (84% vs. 56%, $P = .009$), having a full-time job (20% vs. 0%, $P = .015$) and being “self-pay” (i.e., not having public or private health insurance; 39% vs. 13%, $P = .018$). Participants were also more likely to complete detoxification (i.e., to not leave the hospital early and “against medical advice”) than those who were not enrolled (96% vs. 74%, $P = .001$).

Follow-up data were collected from 119 (88%) of the 136 participants; 17 participants were lost to follow-up. Direct information was collected from 92 participants via a telephone interview while information for 27 participants was obtained from personal contacts identified by the patient at the time of enrollment or personnel at the treatment centers used for aftercare.

Primary Outcomes

Among the patients, 77% (91/119) linked to aftercare (77 to self-help, 51 to inpatient treatment, 31 to an outpatient program, and 2 to a residential facility). Self-help treatment-related components were related to increased aftercare treatment attendance rates. These included having a copy of the “12 steps” (81% vs. 46%, $P = .002$), having read self-help literature (73% vs. 42%, $P = .007$) and having telephone contact numbers for self-help group members (50% vs. 18%, $P = .008$). In addition, participants who reported that they had completed high school were less likely to have initiated aftercare (88% vs. 70%, $P = .028$). As compared to those who did not initiate aftercare treatment, those who did were more likely to have remained abstinent from drugs and alcohol (81% vs. 39%, $P < .001$) during the one-week follow-up.

Secondary Outcomes

A logistic regression analysis (see Table 2) was performed using education (completed high school), abstinent from all substances and a combined “self-help treatment related components” variable which included having self-help literature, a copy of the “12 steps” and telephone contact numbers for self-help group members as predictor variables using linkage to aftercare as the outcome. When controlling for education, substance use remained significantly related to initiation of aftercare ($P = .01$), however, having self-help treatment-related components was not significantly related to initiation of aftercare above and beyond education and substance use ($P = .06$). Overall, 71% (84/118) of the participants self-reported abstinence from alcohol and/or drugs at the time of follow-up. Having self-help treatment-related components was also found to be related to abstinence. Participants who had self-help addiction-related literature (89% vs. 68%, $P = .01$), a copy the “12 steps” (80% vs. 54%, $P = .02$) and who reported to have read self-help literature (76% vs. 37%, $P = .001$) were more likely to have remained abstinent from substance use after hospital discharge (see Table 3).

DISCUSSION

Having self-help components (specifically 12-step programs) was positively associated with the likelihood of initiation of aftercare within a week of discharge from inpatient detoxification. Abstinence from drugs and alcohol was also positively associated with linkage to aftercare. Having self-help components and remaining abstinence were also associated. Due to the structure of this study, it is not possible to determine the relative contribution of these two factors to the outcome of aftercare linkage.

There are several possible ways to interpret these associations. For example, are those destined to initiate aftercare more likely to stay abstinent and acquire self-help components or does staying abstinent and having self-help components facilitate initiation of aftercare? It is possible that one of these two factors is more predictive of the positive outcome of aftercare linkage. Another possibility is that factors not measured in this study (e.g., patient motivation, “readiness to change” or other baseline characteristics) could be more predictive of positive outcomes. A recent multi-wave structural equation modeling analysis found that participation in AA one year post-treatment (i.e., going to meetings and reading AA literature) better predicted lower alcohol-related problems than motivation to change or psychopathology.¹¹ However, prospective research is still needed to delineate the relationship between self-help affiliation, abstinence and treatment initiation rates.

Several limitations to this study are to be noted. Specifically, this was an observational study, which limits the conclusions that can be drawn about any cause and effect relationship between self-help treatment-related components and improved clinical outcomes. Furthermore, the follow-up data set is based on a combination of self-report and information from other sources. The sample size was small and drawn from one health care facility over a limited period of time which limits the power and generalizability of the study's findings. Most importantly, we did not determine during follow-up whether participants obtained self-help materials (literature, copy of the 12 steps) prior to hospitalization, during their hospital stay or following hospital discharge.

CONCLUSIONS

We conclude that among the participants in this study that having components of 12-step programs was positively associated with the likelihood of initiation of aftercare. It would be presumptuous to conclude that the relatively simple intervention of providing individuals with self-help materials may be associated with improved outcomes, however, providing patients with 12-step program components during inpatient detoxification is unlikely to cause harm and may be helpful. Prospective randomized clinical trials would be needed to provide the basis to be able to make more definitive statements about the relative contributions of these factors and to also determine the relative strength of relationship between self-help components and other factors of interest (e.g., abstinence, motivation, or other baseline characteristics) and the positive outcome of linkage to aftercare.

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FIGURE .
Participant flow diagram.

TABLE 1

Participant Characteristics.

Characteristic	Mean ($\pm$ SD) or number (%) (n = 136)
Mean age (years)	39.1 ($\pm$ 13.1)
Male Gender	93 (68%)
Race/ethnicity	
White (Caucasian)	108 (80%)
Black (African American)	21 (15%)
Hispanic (any race)	7 (5%)
Education	
No High school diploma	22 (17%)
High school diploma	25 (18%)
GED diploma	14 (10%)
Some college, no degree	48 (35%)
Post-secondary degree	27 (20%)
Employment	
Unemployed	74 (54%)
Part-time	11 (8%)
Full-time	27 (20%)
Disabled	14 (10%)
Retired	5 (4%)
Other*	5 (4%)
Health Insurance	
Self-pay (no insurance)	52 (38%)
Medicaid	30 (22%)
Private Insurance	28 (28%)
Medicaid (managed care)	4 (3%)
Medicare	9 (7%)
Other	3 (2%)
Primary Substance	
Alcohol	56 (42%)
Heroin	36 (27%)
Non-heroin opioid	32 (24%)
Cocaine	6 (5%)
Benzodiazepines	3 (2%)
Age of first use	20.5 ($\pm$ 8.6)
Years of Use	18.7 ($\pm$ 14.8)
Prior Treatment episodes (n)	2.9 ($\pm$ 3.7)
Completed Detoxification	131 (96%)

SD, standard deviation; GED, general education development.

* Other: Public assistance (2), Self-employed (2), Student (1) .

TABLE 2

Unadjusted and adjusted comparisons of characteristics between those who linked to aftercare and those who did not.

Characteristic	Initiated Aftercare (n=91) Mean± SD or N (%)	Not Initiated Aftercare (n=28) Mean± SD or N (%)	OR	Unadjusted 95% CI	P-value	OR	Adjusted* 95% CI	P-value
Age (years)	40 ± 13	40 ± 14	---	---	.096	---	---	---
Gender (male)	65/91 (71%)	17/28 (61%)	1.16	0.25 – 1.49	.351	---	---	---
Race (white)	71/91 (78%)	22/28 (79%)	0.95	0.36 – 2.89	.951	---	---	---
Education (completed HS)	11/88 (13%)	8/26 (31%)	0.32	0.11 – 0.91	.038	0.29	0.08 – 1.03	.05
Used Substance (yes)	17/90 (19%)	17/28 (61%)	0.15	0.06 – 0.38	<.001	0.21	0.06 – 0.70	.01
Self-help Components [†]						3.63	0.94 – 14.05	.06
Read 12-step literature	59/81 (73%)	10/24 (42%)	3.75	1.45 – 9.68	.007			
Have contact numbers	40/80 (50%)	4/22 (18%)	4.50	1.39 – 14.48	.008			
Copy of the “12 Steps”	66/82 (81%)	10/22 (46%)	4.95	1.82 – 13.47	.002			

SD, standard deviation; OR, odds ratio; CI, confidence interval.

* Adjusted odds ratios from logistic regression model (see text for details).

[†] Combined predictor variable in logistic regression (Read 12-step literature, have contact numbers, or have a copy of the “12 Steps”).

TABLE 3
Comparisons of self-help program components between those who remained abstinent and those who relapsed.

Characteristic	Abstinent (n=84)	Relapsed (n= 28)	OR	95% CI	P- value
Have 12-Step Literature	71/80 (89%)	19/28 (68%)	3.85	1.31 – 11.11	.01
Read 12-Step Literature	59/78 (76%)	10/27 (37%)	5.56	2.08 – 14.28	.001
Have Contact Numbers	36/76 (47%)	8/26 (31%)	2.04	0.78 – 5.26	.17
Have a copy of the “12 Steps”	62/78 (80%)	14/26 (54%)	3.33	1.29 – 9.09	.02

SD, standard deviation; OR, odds ration; CI, confidence interval.