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Brief Family Treatment Intervention to Promote Continuing Care Among Alcoholic Patients in Inpatient Detoxification: A Randomized Pilot Study

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Abstract

Alcoholic patients in inpatient detoxification were randomized to treatment as usual (TAU) or to a brief family treatment (BFT) intervention to promote continuing care post-detox. BFT consisted of meeting with the patient and an adult family member (in person or over the phone) with whom the patient lived, to review and recommend potential continuing care plans for the patient.

Results showed that BFT patients (N=24), were significantly more likely than TAU patients (N=21), to enter a continuing care program after detoxification. This was a medium to large effect size. In the 3 months after detoxification, days using alcohol or drugs (a) trended lower for treatment-exposed BFT patients who had an in-person family meeting than TAU counterparts (medium effect), and (b) were significantly lower for patients who entered continuing care regardless of treatment condition (large effect).

Meta-analytic reviews indicate that involving the family in the patient's treatment generally is an effective means to promote recovery from alcoholism and drug abuse (O'Farrell & Fals-Stewart, 2001; Stanton & Shadish, 1997), but most empirically supported family treatment methods are relatively lengthy and intensive (O'Farrell, 1993). Although still relatively untested, some of the most potentially widely applicable family treatment methods involve brief intervention with family members at key times in the patients' addiction treatment to promote continued use of treatment.

Promoting continued treatment after inpatient or intensive outpatient programs is important for the severely dependent substance abusing patients seen in many treatment settings. Such patients do better with longer duration treatment (Gottheil, McLellan & Druley, 1992; McLellan, Woody, Metzger, McKay, Alterman & O'Brien, 1996; Moos, Pettit & Gruber, 1995). Ideally the continued care will be provided in lower cost outpatient or residential settings and will prevent readmission to more intensive levels of care for relapse. Brief family

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intervention during inpatient treatment may promote this goal of continuing care by substance abusing patients.

Family assessment interviews to aid treatment planning in inpatient substance abuse treatment programs have been shown to improve patient outcomes in correlational and program evaluation studies. Treatment programs that regularly involve family members in such assessment interviews had better than expected case-mix-adjusted 6-month readmission rates for patients in 101 U.S. Department of Veterans Affairs substance abuse treatment programs (Peterson, Swindle, Phibbs, Recine, & Moos, 1994). A program evaluation study in an inpatient detoxification unit found that continuing care attendance increased in the 2 years after such family interviews were introduced as a regular part of treatment as compared with the prior 2 years (Bale, 1993).

In the first controlled study of brief family intervention during inpatient treatment, Ino and Hayashida (2000) evaluated what they called a "before-discharge intervention method (BDIM)" in the inpatient hospital treatment of alcohol dependence in Japan. BDIM involves a family meeting in which family members convey to the alcoholic patient their concern about the alcoholic patient's problem drinking, their observations of past episodes of drinking problems, and their desire and support for abstinence. BDIM was delivered 3 to 10 days before hospital discharge after the patient had achieved some degree of stability following detoxification and had received some counseling. Among those living with a spouse, patients targeted to receive BDIM, as compared with their counterparts not targeted to get BDIM, had greater attendance by patients and by family members at hospital continuing care clinic sessions and/or self-help meetings. For the subgroup of patients in which both the patient and the spouse attended continuing care and/or self-help meetings, patients in the BDIM group had greater abstinence than those in the non-BDIM group. These favorable results for BDIM occurred under conditions in Japan that may not generalize to the U.S. In the Ino and Hayashida (2000) study, over 60% of patients were receiving their first hospital admission for alcoholism treatment and the average length of hospital stay was 90 days (personal communication from Aro Ino, M.D., October 26, 2001). It is unknown how effective BDIM or similar methods would be for more chronic patients being treated in the much briefer inpatient stays typical of U.S. programs.

We have been conducting a treatment development project to develop and pilot test a Brief Family Treatment (BFT) intervention to promote continuing care by patients receiving inpatient detoxification. This project follows the stage model of behavioral therapies development research described by Onken, Blaine, and Battjes (1997). An earlier report (O'Farrell, Murphy, Alter, & Fals-Stewart, in press) described Stage 1a of this project in which we developed the BFT treatment manual, treated an initial group of patients with BFT, and compared outcomes of BFT patients with a matched, non-randomized treatment as usual (TAU) comparison group. BFT consisted of meeting with the patient and a family member with whom the patient lived to review and recommend potential continuing care plans for the patient. A phone conference was used when logistics prevented an in-person family meeting. This earlier non-randomized, quasi-experimental study found BFT, as compared with TAU, had greater continuing care participation for an intent-to-treat sample and fewer days of substance use for a subgroup who got took part in a family meeting (not just a phone conference). The magnitude of these differences favoring BFT over TAU was midway between a medium and a large effect size. These Stage 1a results suggested BFT has promise as a method to increase continuing care and provided support for more controlled research on BFT.

The present report describes Stage 1b of this project, a small scale, randomized pilot study of BFT. In the present study, we tested the prediction that substance abusing patients who received BFT during inpatient detoxification, as compared with a randomized comparison group of

patients who received TAU, (a) would be more likely to begin continuing care in the 30 days after detox and (b) in the 3 months after detox would attend continuing care to a greater extent and have lower frequency of alcohol and drug use. Analyses not only tested these study predictions, they also examined whether clinically meaningful effect sizes were observed that provide support for larger scale, controlled studies on BFT (Onken et al., 1997).

METHOD

Participants

Participants were 45 patients admitted to a hospital-based inpatient substance abuse detoxification (detox) unit in the northeastern United States. The detox unit was part of a larger substance abuse treatment program that had multiple levels of care including a 30-day residential program, a modified therapeutic community, and an outpatient clinic. Patients admitted for detox were eligible for the study if they met the following inclusion criteria: (a) age between 21 and 65 years old; (b) alcohol dependence diagnosis with or without comorbid drug diagnosis; (c) living with parent(s), wife, or female partner prior to admission; (d) their residence was within 45-minutes driving distance from the treatment center; and (e) no evidence in the patient's medical record or admitting psychiatric assessment of a current organic mental disorder, schizophrenia, delusional (paranoid) disorder, or other psychotic disorder.

Study participants were drawn from 897 consecutive patients admitted for detox at the study site from April 2001 to March 2002. Of the 201 patients who lived with a family member, 45 lived further than a 45-minute drive from the medical center, 25 did not have an alcohol problem, 7 were older than age 65, and 78 were not randomized for a variety of other reasons (e.g., weekends or holidays when staff were unavailable, staff errors in identifying potential study patients). This left 46 patients who were randomized. One patient assigned to BFT died of causes not related to alcoholism 2 weeks after discharge from detox and was dropped from further consideration. This left a final intent-to-treat sample of 45 patients with 24 assigned to BFT and 21 assigned to TAU. The number of patients is not the same in the two conditions because an urn randomization procedure (Stout, Wirtz, Carbonari, & Del Boca, 1994; Wei, 1978) was introduced midway in the study to attempt to reduce group differences on key demographics that had occurred with simple randomization.

Demographic and other background data for the 24 BFT patients and 21 TAU comparison group patients are presented in Table 1. The participants, on average, were in their late 40's, high school educated, mainly white, living with a wife or female partner. Most were being detoxified from alcohol for an average duration of about 4 days. These patients had had multiple prior detox admissions and about a third had a chart diagnosis for a comorbid psychiatric disorder of posttraumatic stress disorder or major depressive disorder. In addition, there were two female patients in the TAU group and none in the BFT group. Despite randomization, BFT and TAU groups were different or showed a trend toward difference on three variables. More BFT patients had alcoholism without other drug problems ($p = .046$); fewer BFT patients were employed ($p = .102$), and more BFT patients were black ($p = .094$). For each of these three variables, a chi-square analysis was conducted to see if the variable was associated with entry to continuing care (the main dependent variable in the study), but no significant association was found (all p 's $> .25$). Therefore, these differences between BFT and TAU groups were ignored in subsequent analyses.

Measures

Background and diagnostic information—Most variables in Table 1 were obtained from patients' electronic medical records at the hospital where the study was conducted. The substance abuse and psychiatric disorder diagnoses, which were made according to the

Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-IV; American Psychiatric Association, 1994), were taken from the admitting psychiatric assessment and from the discharge summary.

Measures describing the standard detoxification program received by all study patients—The Drug and Alcohol Program Treatment Inventory (DAPTI; Swindle, Peterson, Paradise & Moos, 1995) was completed by detox unit staff to characterize TAU. The DAPTI assesses program goals and activities specific to eight treatment orientations as perceived by staff working in the program. The DAPTI has demonstrated promising subscale internal consistency, discriminant validity, concurrent validity, and the ability to distinguish between programs with independently identified orientations (Swindle et al., 1995).

Entry to, and attendance during continuing care post-detox—Information about entry to and attendance at a continuing care program came from the patient's electronic medical record. The study site was part of a large multi-site healthcare system with an integrated electronic medical record. Information on each patient was abstracted from the medical record progress notes and appointment records for the 3-month period post-detox. A form was developed to code and collect this continuing care information.

Entry to continuing care post-detox was considered to have occurred if the patient had a least one day of outpatient counseling or residential continuing care for substance abuse within 30 days of discharge from detox. Continuing care attendance was the number of days on which a patient had an outpatient counseling visit or was in residential continuing care for substance abuse during the 3-month period following discharge from inpatient detoxification. Readmission for inpatient detox was not considered continuing care.

Frequency of substance use in the 3 months after discharge from detox—The percentage of days the patient drank or used illicit drugs during the 3 months after discharge from detox was reported by the patient on the Timeline Follow-Back interview (TLFB; Sobell & Sobell, 1996). The family member with whom the patient was living at the time of the index detox also was interviewed with the TLFB for 78% (35/45) of the patients. TLFB retrospective daily reports of substance use show test-retest and patient-collateral correlations of $\geq .80$ for alcohol (Sobell & Sobell, 1996) and for illicit drugs including opioids, cocaine, and benzodiazepines (Fals-Stewart, O'Farrell, Rutigliano, Freitas, & McFarlin, 2000).

Procedures

Detox program TAU—Admission to the detox unit was reserved for patients who were: (a) at high risk for serious alcohol or drug withdrawal symptoms, (b) at risk for developing serious medical problems during withdrawal (but without acute medical problems at time of admission), and (c) without severe and persistent mental illness. Patients were admitted mainly for detoxification from alcohol and from opioid drugs.

The detox unit focused on acute medical detoxification, a brief biopsychosocial assessment of patients' substance abuse and related problems, and continuing care planning. Average treatment episodes on the unit were 3 to 4 days. Unit staff consisted of a full-time and a part-time psychiatrist, a physician's assistant, nurses, and nursing assistants. The full-time psychiatrist and 2 registered nurses described their program on the DAPTI as being characterized most strongly by a medical orientation ($M \pm SD = 20.0 \pm 1.0$); to a lesser extent by a dual diagnosis orientation (14.7 ± 0.6) and an AA/12-Step orientation (11.3 ± 3.5); and not strongly characterized by cognitive-behavioral (9.7 ± 1.5), family systems (9.0 ± 1.7), psychodynamic (7.7 ± 3.8), therapeutic community (6.7 ± 1.5), or rehabilitation (1.3 ± 1.2) orientations.

The detox unit did not regularly contact or involve patients' family members, making it a suitable unit in which to evaluate the addition of BFT. We reviewed all progress notes in the electronic medical record for each patient's detox stay; we reviewed 15.1 ± 3.0 notes per patient for BFT and 14.9 ± 3.1 for TAU. These progress notes had almost no mention of any contact by detox staff with a family member other than the BFT intervention. Specifically, the only progress notes that mentioned possible contacts with a family member described: (a) nurse met with patient and spouse to discuss continuing care plans (1 TAU patient); (b) staff called patient's brother who had asked to be informed about continuing care plan (1 TAU patient); (c) family member visited patient or dropped off or picked up patient but no staff contact with family member was noted (5 BFT and 1 TAU patient); (d) patient who phoned family multiple times was reminded to stay focused on his own recovery (1 BFT patient); and (e) description of patient's family as reported by patient but no staff contact with family (2 BFT and 1 TAU patient).

BFT intervention—Two part-time counselors conducted BFT in the detox unit Monday through Friday for the study. Each counselor had a Master's degree and over 5 years experience working with substance abusing patients and their families. The counselors were given a written outline of steps to follow in BFT, and cases were reviewed in a weekly meeting with the first author.

The BFT intervention consisted of meeting with the patient and a family member (spouse or parent) with whom the patient lived, to review and recommend potential continuing care plans for the patient. A phone conference was used when logistics prevented an in-person family meeting. Of the 24 cases randomized to BFT, 9 received an in-person family meeting, 13 had an in-depth phone conference with a family member, 1 had a very brief phone call because the family member did not have time to talk, and 1 patient refused permission to contact his family member.

Specific steps in the BFT intervention were: (1) Identify patient admitted to detox who is living with a spouse or parent in a town within reasonable driving distance of the hospital (i.e., close enough patient could return to the treatment center for continuing care). (2) Get patient's permission to contact family member plus name, phone number and best time to call. (3) Call family member to set appointment for meeting. (4) Meet together with patient and family member to formulate continuing care plan. (5) If an in-person meeting is not feasible, conduct a phone conference with patient and family member about continuing care options and preferred plan. (6) Help make any practical arrangements for continuing care plan. (7). Call patient and family member 2 weeks after detox discharge to find out success of and troubleshoot continuing care plan.

Outcome data collection—Each patient and a family member with whom the patient had been living before detox were contacted to collect outcome data at 3 months after leaving the detox program. The purpose of the study was explained and each respondent signed a written informed consent approved by the Institutional Review Board. Each respondent completed the TLFB about the patient's alcohol and drug use during the 3-month period immediately following the patient's discharge from the index detox admission being examined in the present study.

Analyses

We compared BFT with TAU outcomes using Chi-square for categorical outcomes and t-tests (two-tailed) for continuous outcome measures. Results presented are for the intent to treat sample. We also examined results separately for the 9 BFT patients who had an in-person family meeting (not just a phone conference), and thus were considered to have been exposed

to the full BFT treatment as intended. Results for the treatment-exposed subsample are presented only when they differ from intent to treat results. The effect size r (Rosenthal, 1991) - a correlation coefficient - was used to interpret the magnitude of the differences between BFT and TAU outcomes. Correlation values of $r = .10$ was considered a small effect, $r = .30$ a medium effect, and $r = .50$ a large effect (Cohen, 1988).

RESULTS

Entry to Continuing Care Post-Detox

We predicted - and found - that patients who got BFT would be more likely to begin a continuing care program in the 30 days after detoxification. About one and a half times more BFT cases (92%) than TAU cases (62%) entered continuing care. The magnitude of this difference favoring BFT over TAU was midway between a medium and a large effect size. Section 1 of Table 2 displays these results.

Continuing Care Attendance

We also predicted that patients who got BFT would attend continuing care to a greater extent in the 3 months after detox. Results are shown in section 2 of Table 2. Results were in the predicted direction with BFT patients attending continuing care on nearly twice as many days in the 3-month period following discharge from inpatient detox as their TAU counterparts, but this difference was not statistically significant. The magnitude of the non-significant difference favoring BFT over TAU was midway between a small and a medium effect size.

Frequency of Substance Use

Our final prediction was that patients who got BFT would have a lower frequency of alcohol and drug use in the 3 months after detox. Results are shown in section 3 of Table 2. Results were in the predicted direction with BFT patients using alcohol or drugs fewer days in the 3-month period following discharge from detox than their TAU counterparts, but this difference was not statistically significant. The magnitude of the non-significant difference favoring BFT over TAU was midway between a small and a medium effect size.

Results favoring BFT over TAU were stronger for those BFT patients that had an in-person family meeting (not just a phone conference). For this treatment-exposed subsample, there was a trend and a medium effect size for BFT patients, compared to TAU counterparts, to drink or use drugs on fewer days in the 3 months after detox (percent days substance use = 10.6 ± 28.3 , $n = 9$, BFT in-person; 36.1 ± 40.3 , $n = 19$, TAU; $t(26) = 1.93$, $p = .066$, 2-tailed, $r = .33$).¹

We also examined whether starting continuing care in the 30 days after detox led to less substance use regardless of whether the patient was in the BFT or TAU group. Patients who started continuing care in the 30 days after detox, compared to those who did not, drank or used drugs on significantly fewer days in the 3 months after detox (percent days substance use = 21.4 ± 34.1 , $n = 35$, continuing care; 60.0 ± 41.7 , $n = 8$, no continuing care; $t(41) = 2.77$, $p = .008$, 2-tailed, $r = .60$). The magnitude of the difference favoring those who received continuing care over those who did not was a large effect size.

¹Substance use outcome data for the 3-month period after detox were not available for 2 patients in the TAU group, neither of whom had gone to continuing care post-detox. This explains why there were only 19 TAU subjects in this analysis. It also explains why the total subjects in the analysis reported in the following paragraph is only 43 subjects.

DISCUSSION

As predicted, alcoholic patients in detoxification who received BFT, were more likely to enter a continuing care program than similar patients randomized to detoxification as usual (TAU). The magnitude of the difference was midway between a medium and a large effect size, very similar to our earlier non-randomized study of BFT (O'Farrell et al., in press).

Results favoring BFT were also in the predicted direction for measures of continuing care attendance and the frequency of alcohol and drug use in the 3 months after detox. BFT patients had twice as many days of continuing care attendance and two thirds fewer days of substance use than TAU patients. However, these differences did not reach significance and the effect size was small to medium. However, not all BFT patients received the family intervention in person; some received it via a phone call. When only BFT patients who had an in-person family meeting were compared to TAU patients, the differences in 3-month substance use approached significance, reflecting a medium effect similar to what we found for treatment exposed patients in our earlier non-randomized study (O'Farrell et al., in press).

That patients who actually received the planned in-person family meeting as intended, had better results, is consistent with the concept of family involvement underlying BFT and provides additional conceptual evidence suggesting the potential effectiveness of this intervention (Oncken et al., 1997). This also suggests that overcoming obstacles to the in-person meeting could improve BFT results further. In addition, BFT assumes that continuing care will lead to less substance use. Consistent with this assumption, patients who entered continuing care regardless of treatment condition had significantly less substance use than those who did not as reflected in a large effect size. However, both of these findings also could reflect self-selection, with more motivated and involved families more likely to come in for the BFT session and more committed patients choosing continuing care and doing better.

We consider the effect sizes favoring BFT over TAU to be clinically meaningful. They compare favorably with the medium-size effect found in the larger literature favoring family-involved treatments over individual-based treatments in studies of alcoholism and drug abuse (O'Farrell & Fals-Stewart, 2001; Stanton & Shadish, 1997). They equal or exceed the level that Elashoff (1997) has argued is clinically meaningful, namely at least midway between a small and a medium effect size (i.e., $r \geq .20$). Thus, the present results show promise for BFT as a method to increase continuing care and abstinence and provide support for larger scale, more controlled research on BFT.

The percentage of patients attending continuing care (92% BFT vs 62% TAU) in the present study is higher than in our earlier non-randomized study (79% BFT vs 43% TAU), especially for TAU. The most likely explanation is that about midway through this study, a health system policy change mandated that all inpatients had to have a continuing care appointment made before the patient could be discharged. This led to a "total push" by staff to increase continuing care that probably increased the rate of continuing care among both BFT and TAU patients. Our review of patients' records shows that family involvement was still quite low in TAU, suggesting that multiple pathways can lead to increased continuing care attendance including family involvement.

The present results are consistent with prior work showing that family involvement in discharge planning leads to more continuing care use and less substance use after inpatient detoxification (Bale, 1993; Ino & Hayashida, 2000; O'Farrell et al., in press; Peterson, et al., 1994). The content of the family involvement in these studies has ranged from fairly intense emotional communication (Bale, 1993; Ino & Hayasida, 2000) to a rational problem solving approach (O'Farrell et al., in press; Peterson, et al., 1994). The possibility that it is not the content of BFT but merely the fact that the family member was involved indicates that future studies need an

attention-control group involving a family member to determine the specific effects of BFT on continuing care and other outcomes. The present results also provide further support for the Joint Commission on Accreditation of Healthcare Organizations standards on family involvement in substance abuse treatment. These standards require that, when available, a family member should be included in the assessment and treatment planning process for all substance abuse patients who seek help (Brown, O'Farrell, Maisto, Boies & Suchinsky, 1997).

The present study was the first randomized comparative study of BFT or of any other family intervention to promote continuing care post detox. The promising results obtained suggest that a larger scale randomized trial of BFT is the next step in evaluating this treatment. Future research should overcome the limitations and design problems of the present study. Future studies should standardize the individual-based discharge planning method with which BFT is compared. The present study included mainly male patients and most patients lived with a spouse or cohabiting partner. Future studies need to determine if the present results would generalize to female patients or those living with a parent or other family member. The present study included only alcoholic patients (with or without comorbid drug problems), so future work is needed with primary drug dependence patients without comorbid alcohol problems. Because many drug abusing patients do not require detoxification, BFT could be adapted for such patients to facilitate transitions from residential to outpatient, or from day hospital or intensive outpatient down to standard outpatient care. Finally, in the present study only a relatively small percentage of patients in the detox unit were living with family and eligible for BFT, raising questions about the extent to which BFT can be widely disseminated and used. However, the detox unit studied here is not representative of the many treatment programs in which half or more of the patients live with a partner or other family member (O'Farrell & Fals-Stewart, 2006; Tracy, Kelly & Moos, 2005). Future studies should examine BFT in programs with a greater proportion of patients who are eligible for BFT.

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Table 1

Characteristics of Alcoholic Patients Who Received a Brief Family Treatment Intervention During Inpatient Detoxification and of a Treatment as Usual Comparison Group

Characteristic	Brief Family Treatment Intervention Group (N=24)	Treatment as Usual Comparison Group (N=21)
Mean (SD) Age	48.1 (7.8)	47.4 (9.3)
Education - number (%)		
Less than high school or G	3 (13%)	1 (5%)
High school or GED	12 (50%)	11 (52%)
Greater than high school or GED	9 (37%)	9 (43%)
Race-ethnicity - number (%)		
White	21 (87%)	21 (100%)
Black	3 (13%)	0 (0%)
Hispanic	0 (0%)	0 (0%)
Number (%) employed	9 (38%)	13 (62%)
Number (%) living with		
Wife	8 (57%)	9 (64%)
Cohabiting female partner	5 (36%)	5 (36%)
Parent	1 (7%)	0
Distance from hospital - number (%)		
Closer	14 (58%)	11 (52%)
Farther	10 (42%)	10 (48%)
Mean (SD) days in detox unit	3.8 (0.5)	4.0 (0.6)
Mean (SD) prior detox admissions	3.9 (4.7)	3.3 (3.0)
Number (%) detoxed for		
Alcohol only	21 (88%)	13 (62%)
Alcohol and drug	3 (12%)	8 (38%)
Number (%) with PTSD and/or MDD diagnosis	8 (33%)	8 (38%)

Note. PTSD = post-traumatic stress disorder; MDD = major depressive disorder.

Continuing Care Entry, Continuing Care Attendance, and Days of Substance Use Post-Detox for Alcoholic Patients Who Received a Brief Family Treatment (BFT) Intervention During Inpatient Detoxification and for a Treatment as Usual (TAU) Comparison Group

Table 2

Continuing Care Post-Detox	BFT	TAU	Chi-Square or t-test	p	r
Entered continuing care - n (%)	22 (92%)	13 (62%)	5.74	.017*	.36
Did not enter continuing care - n (%)	2 (8%)	8 (38%)			
Mean days continuing care (SD)	12.4 (11.4)	7.2 (11.3)	1.53	.134	.22
Mean % days substance use (SD)	22.6 (36.3)	36.1 (40.3)	1.15	.255	.17

r = effect size as a correlation coefficient (Rosenthal, 1991)

* p<.05 (two-tailed)