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A Pilot Study of Interpersonal Psychotherapy (IPT) for Alcohol Dependent Women with Co-occurring Major Depression

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Abstract

Co-occurring major depression is prevalent among alcohol dependent women and is a risk factor for poor treatment outcomes. This uncontrolled pilot study tested the feasibility, acceptability, and initial effects of Interpersonal Psychotherapy (IPT) for women with co-occurring alcohol dependence and major depression (AD-MD) in an outpatient community addiction treatment program. Fourteen female patients with concurrent diagnoses of alcohol dependence and major depression participated. Assessments were conducted at baseline, mid-treatment (8- and 16-weeks), post-treatment (24-weeks), and follow-up (32-weeks). Participants attended a mode of 8 out of 8 possible sessions of IPT in addition to their routine addiction care, and reported high treatment satisfaction on the Client Satisfaction Questionnaire-8. Women's drinking behavior, depressive symptoms, and interpersonal functioning improved significantly over the treatment period and were sustained at follow-up. These preliminary findings suggest that IPT is a feasible, highly acceptable adjunctive behavioral intervention for AD-MD women.

Keywords

Treatment; Alcohol; Depression; Co-occurring Disorders; Women

INTRODUCTION

Major depression (MD) and alcohol dependence (AD) are among the most common mental disorders and are leading causes of disability in the U.S. (1). Among women, AD and MD often co-occur, compounding the effects of each disorder (2–4). Epidemiologic data indicate that nearly half (48.5%) of women with lifetime alcohol use disorders report lifetime episodes of major depression (5). In clinical samples, the rates of AD-MD co-morbidity are even higher, with estimates ranging from 50 to 70% (6–10).

Although a variety of treatments for alcohol and depression have demonstrated success in reducing drinking and depression independently, integrated behavioral interventions for AD-MD are lacking (11–12), and none have been developed specifically for women engaged in

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outpatient addiction treatment. The dearth of behavioral treatment options for male and female AD-MD patients is striking, given the high rate of co-morbidity and adverse treatment outcomes reported. Although AD-MD patients are more likely to participate in substance use treatment than patients with AD only (13), patients with co-morbid disorders are also more likely to drop-out of treatment prematurely (14) and are at greater risk for relapse following treatment (15–19).

Interestingly, both pre- and post-treatment depressive symptoms appear to impact alcohol treatment outcomes negatively. In an inpatient sample of alcohol dependent men and women, Greenfield et al. (1998) found that a diagnosis of major depression at the time of hospitalization was associated with shorter times to first drink and relapse following discharge. Depressive symptoms that remain following alcohol treatment are also associated with increased post-treatment drinking behavior and relapse (20–22). Consequently, effective adjunctive interventions that address depressive symptoms in the context of addiction treatment are needed. Among AD women, adjunctive interventions for depression must also be acceptable and feasible, given the barriers that women often encounter in chemical dependency treatment (23).

An integrated interpersonal approach to treating alcohol dependence and depression in women

Alcohol dependent women face a number of interpersonal difficulties that hamper their recovery efforts and elevate their risk for depression. Interpersonal conflicts and relationship factors are salient treatment targets for AD-MD women, and are often the key motivation for women to seek addiction treatment (24). Compared with men, women are more likely to drink in response to unpleasant emotions (25,26) and stressful life events that are interpersonal in nature (27–29). Remedying interpersonal insults and building healthy support networks are critical for AD-MD women because interpersonal deficits and poor social support have been associated with drinking to cope (30) and drinking relapse (31) in women.

Because interpersonal factors play a critical role in the development, maintenance, and exacerbation of both drinking problems and depressive symptoms, we selected an intervention that uses an interpersonal frame to address these problems concurrently. Interpersonal Psychotherapy (IPT; 32,33) has been shown to be efficacious for those with major depression (34–36) across numerous treatment settings (37–40). IPT proposes that there is a bi-directional relationship between interpersonal functioning and psychological well-being (41). More specifically, IPT encourages the patient's selection of one treatment target from among four interpersonal problem areas (role transitions, interpersonal conflicts, loss/grief, and interpersonal sensitivity).

These four IPT problem areas address specific interpersonal treatment needs of women with AD-MD. As patients in a chemical dependency program, these women are attempting to make several major *role transitions*, including making the transition from a substance-abusing lifestyle to one focused on sobriety. This IPT problem area identifies the woman's changing roles, acknowledges the distress that can accompany the transition, and problem-solves concrete behavioral strategies to increase the woman's likelihood of success in adopting a healthier, substance-free role. Another IPT problem area, *interpersonal conflicts*, uses behavioral change techniques such as 'Interpersonal Incident Analyses' to teach women how to identify the situations (and people) in which (and with whom) they are most likely to encounter interpersonal conflict—another common precipitant to alcohol relapse among women (29,42). Communication and assertiveness skills in this domain, coupled with role-plays conducted in sessions, can assist AD-MD women who may be ill-equipped to interact with friends and family members who do not support their abstinence. *Loss and grief* are

also salient problem areas for AD-MD women. Identifying and addressing patients' losses in treatment reduce the likelihood that they will serve as triggers for drinking relapse. Many AD-MD women also suffer from *interpersonal sensitivity*, including low self-esteem and problems trusting others (43). Learning skills to overcome these deficits enables patients to enhance their social support networks, which in turn can help reduce the risk for subsequent drinking (44) and depression (45).

Study aims

The present study examines the feasibility, acceptability, and initial outcomes of individual IPT for AD-MD women within the context of a traditional chemical dependency program. Individual IPT (as opposed to group IPT) was selected given reports that chemically dependent women often view individual treatment as one of the most important components of their care (46). We hypothesized that women would (a) attend the individual IPT sessions offered to them, (b) report high levels of treatment satisfaction, and (c) report improvements in their drinking behavior, depressive symptoms, and interpersonal functioning over the course of treatment.

METHODS

Design

The study employed a pre-test/post-test, uncontrolled design with repeated measures at baseline, mid-treatment (8- and 16-weeks), post-treatment (24-weeks), and follow-up (32-weeks). All participants received the 8 session individual IPT intervention in addition to their standard group-based chemical dependency treatment.

Setting

Participants were recruited from a multidisciplinary substance use program for mentally ill chemical abusers (MICA) in an outpatient chemical dependency clinic. Standard acute phase MICA treatment consisted of a 24-week abstinence-oriented, group-based program focused on teaching patients coping skills to manage symptoms of their chemical dependency, mental illness, and the challenges associated with the recovery process. MICA groups were held three days per week for 1.5 hours each session. Psychiatric evaluation and ongoing medication management were provided on an as needed basis.

Participants

To be eligible for the study, MICA patients needed to be: 1) female, 2) English speaking, and 3) between 18 and 65 years old; and meet criteria for 4) current alcohol dependence (AD) and 5) major depression (MD) according to the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; *DSM-IV*; 47). Exclusion criteria included: current or past psychosis, current or past bipolar disorder, moderate or severe mental retardation, acute suicidal intent requiring emergency intervention, or intravenous drug use in the past year.

Procedures

Female patients who endorsed AD and co-occurring symptoms of depression [defined as total scores ≥ 5 on the Patient Health Questionnaire-9 (PHQ-9; 48)] during their chemical dependency intakes were referred to the study by intake staff. Written informed consent was obtained from all participants and all procedures were approved by the University of Rochester Research Subjects Review Board.

During the baseline assessment, the Psychiatric Research Interview for Substance and Mental Disorders (PRISM; 49) was administered to establish current (criteria were met

within the past year) diagnoses of AD and MD, as well as to assess co-morbid drug dependence, Post-traumatic Stress Disorder (PTSD), and Borderline Personality Disorder (BPD). The PRISM is a semi-structured, diagnostic interview that measures the major Axis I DSM-IV diagnoses of alcohol, drugs, and psychiatric disorders. The PRISM also reliably distinguishes between depressive symptoms that are the expected result of intoxication or withdrawal from those that constitute MD, and allows for further classification of MD into independent and substance-induced subtypes (49). Participants were paid \$20 cash for each assessment they completed.

IPT treatment

In addition to the standard MICA group treatment described above, participants received standard IPT (33,41) delivered in 8 sessions--the recommended format for brief IPT (37, 39). An 8 session adjunctive dose of IPT was selected given that patients were already attending three addiction treatment groups per week. In this study, IPT was dually-focused on reducing drinking behavior and depressive symptoms by improving participants' interpersonal functioning. Conventional therapeutic practices of IPT include: selection of an interpersonal problem area, decisional analysis, and interpersonal incident analysis. The first two individual IPT sessions were used to build rapport, provide psychoeducation about alcohol dependence and depression, identify key interpersonal relationships, and select a current interpersonal problem area. Selection of the IPT problem area was guided by the patient's description of interpersonal events that appeared to be related to the onset or exacerbation of the patient's recent heavy drinking periods or current depressive symptoms. For some patients, the problem area that came to the fore was closely tied to their drinking. For other patients, the problem area was selected because of its particular salience for their depression. In each IPT session, the inter-connectedness of patients' drinking, depression, and interpersonal functioning was emphasized. During sessions 3–6, therapists worked collaboratively with patients to improve communication skills, modify maladaptive relationship expectations, and build or better utilize sober social supports. In sessions 7–8, therapists reinforced the skills acquired during treatment and worked with the patient to create a relapse plan that identified how interpersonal crises/insufficient social support could trigger relapse to drinking, depression, or both.

Therapist training and supervision

Four MICA staff therapists (2 with bachelor's degrees, 2 with master's degrees) delivered IPT. Therapist training in IPT consisted of an initial half-day didactic workshop led by the principal investigator (SAG). Weekly face-to-face group supervision followed. Throughout the study, therapists used an IPT therapist manual developed specifically for the study (Gamble et al., unpublished manuscript). The manual contained specific recommendations and examples for using standard IPT for the treatment of co-occurring alcohol dependence and depression. All individual IPT therapy sessions were audio-taped and were reviewed by SAG.

Measures

Feasibility of treatment initiation was assessed by the number of women who completed at least 1 IPT session. *Treatment feasibility* was assessed by the mean and modal number of IPT sessions women attended over 24-weeks of treatment.

Treatment acceptability—The Client Satisfaction Questionnaire-8 (CSQ; 50), an 8-item self-report measure, was administered at mid-treatment (16 weeks) to assess patients' overall subjective satisfaction with treatment. Items from the CSQ-8 include questions such as: "Did you get the kind of service you wanted?" "Have the services you received helped

you deal more effectively with your problems?” “If a friend were in need of similar help, would you recommend our program to her?” and “If you were to seek help again, would you come back to our program?”. Items were rated on a Likert scale, ranging from 1 (quite dissatisfied/no, they made things worse/no, definitely not/poor/none of my needs were met) to 4 (very satisfied/yes, they helped a great deal/yes, definitely/excellent/almost all of my needs have been met).

Drinking behavior—The Timeline Follow-back Interview (TLFB; 51) was used to assess drinking behavior. The TLFB uses a calendar and other memory aids to determine an individual’s drinking and other drug use over a specified time period. Using data derived from the TLFB, we calculated two indices of drinking behavior: *percent days abstinent (PDA)* and *drinks per drinking day (DDD)*. PDA provides a measure of drinking frequency and DDD provides a measure of drinking intensity (52). At baseline, participants were interviewed about their drinking and drug use during the 90 days prior to treatment entry. At subsequent interviews, patients provided information about their alcohol and drug use since their last reporting. The TLFB has excellent reliability (53) and validity for alcohol use (54,55) and is sensitive to change in alcohol treatment studies (56).

Depression severity—A self-report measure (Beck Depression Inventory-II (BDI-II; 57) and a 17-item interviewer-administered measure (Modified Hamilton Rating Scale for Depression (HRSD; 58) were used to evaluate depressive symptom severity. These measures are the standard in depression treatment trials (59) and have been used to detect changes in depression severity among AD-MD patients (11).

Interpersonal functioning—The Interpersonal Problems Scale of the Drinker Inventory of Consequences (DrInC; 60) was used to assess adverse interpersonal consequences associated with drinking.

Data analyses

An intent-to-treat approach was used for all analyses. Treatment response from baseline to 24-weeks was determined with generalized estimating equations (61). Paired t-tests and Wilcoxon tests were used to determine the extent to which treatment gains achieved at 24-weeks were maintained at the 32-week follow-up period. A significance level of 0.05 was used for each test. Given the limited sample size, no covariates were included in the models. Effect sizes were calculated for each outcome variable using an adjusted version of Cohen’s *d* (62).

RESULTS

Recruitment and retention

During intake interviews, 198 women were screened for study eligibility; 23 (11.6%) met initial screening criteria. Of these 23 women, 17 (73.9%) completed the baseline assessment process, and three failed to meet study eligibility requirements, yielding a sample of 14. Across the study period, assessment retention rates were as follows: 8-weeks = 100% (n=14); 16-weeks = 78.6% (n=11); 24-weeks = 64.3% (n=9); 32-weeks = 57.1% (n=8). Although underpowered, we conducted attrition analyses to compare baseline characteristics among participants who completed the 24- and 32-week assessments to those who did not. No significant differences were found on any of the demographic (age, marital status, household income, education, race) or baseline clinical variables (PDA, DDD, BDI, HRSD) examined.

Participant Characteristics

Participants' mean age was 36.4 years (SD=12.0). Most were White (78.6%, n=11); 21.4% were African American (n=3). None were Hispanic or Latina. Nearly all (85.7%, n=12) were single, divorced, or separated; 2 (14.3%) women were married or living with their partners as if married. Over half (57.1%, n=8) had one or more children under the age of 18. Participants' mean level of education was 13.1 (SD=2.0) years. They were generally low-income, with 8 (66.7%) reporting an annual household income under \$20,000.

All participants met criteria for current AD and MD. Thirteen (92.9%) had independent MD; one (7.1%) had substance-induced MD. Twelve participants (85.7%) were nicotine dependent and half were dependent on at least one other substance besides alcohol (50%, n=7). Over half the sample (57.1%, n=8) had current Post-traumatic Stress Disorder (PTSD) and 85.7% (n=12) had Borderline Personality Disorder (BPD). Nearly two-thirds (64.3%; n=9) reported taking antidepressant medications at baseline.

Feasibility and acceptability

Ten (71.4%) participants initiated IPT treatment and attended at least 1 individual IPT session. The four participants who did not complete any IPT sessions were discharged from the chemical dependency treatment program for failing to come to treatment before any IPT sessions could be scheduled. Patients attended a mode of 8 out of 8 possible IPT sessions ($M = 4.79 \pm 3.6$, range = 0–8) in a mode of 14.0 weeks ($M = 14.0 \pm 4.3$, range = 3.0–19.0). Overall, participants reported being highly satisfied with the treatment offered to them ($M=27.25$ out of 32; $SD=3.69$). Of the 8 women who received IPT and completed the Client Satisfaction Questionnaire-8, 87.5% (n=7, $M=3.38$, $SD=0.74$) were mostly to very satisfied with the amount of help they received, 100.0% (n=8, $M=3.38$, $SD=0.52$) felt the program helped them deal more effectively with their problems, 100.0% (n=8, $M=3.50$, $SD=0.54$) received the kind of services they wanted, 100.0% (n=8, $M=3.38$, $SD=0.52$) rated the quality of the services provided as being good or excellent, 100.0% (n=8, $M=3.50$, $SD=0.54$) were mostly to very satisfied with the services provided, 100.0% (n=8, $M=3.75$, $SD=0.46$) would recommend the program to a friend, 75.0% (n=6, $M=2.88$, $SD=0.64$) reported the program met most or almost all their needs, and 100.0% (n=8, $M=3.50$, $SD=0.54$) would return to the program if they needed help again.

Based on interviews conducted with study therapists, the therapists reported favorable experiences with the intervention, were successfully able to incorporate the individual IPT sessions into their routine clinical practice, and reported that IPT appeared particularly well-suited to their female patients' concerns.

Drinking behavior, depressive symptoms, and social functioning

Data are summarized in Table 2. Omnibus tests are reported from GEE analyses of data collected over the 24-week treatment period. Participants experienced a significant decline in drinking behavior and depressive symptoms from baseline to the 24-week post-treatment assessment. Percentage days abstinent (PDA) from alcohol increased from 55% at baseline to 87% ($p<.001$) at the 24-week post-treatment assessment. Drinks per drinking day (DDD) decreased from 5.92 drinks at baseline to 2.93 drinks at treatment completion (ns). Follow-up analyses using Wilcoxon tests (n=8) indicated that drinking reductions that occurred during treatment were maintained at the 32-week assessment (PDA, $p = 0.283$; DDD, $p = 0.208$).

Across the study period, depressive symptoms measured by the Hamilton Rating Scale for Depression (HRSD) decreased from a baseline mean of 18.71 to 7.29 ($p<.001$) at the 24-week assessment. Participants' Beck Depression Inventory-II scores fell from 29.93 at

baseline to 12.44 ($p < .001$) at the conclusion of treatment. Paired t -tests ($n=8$) comparing patients HRSD and BDI-II scores at 24- and 32-weeks indicated no significant change from post-treatment to follow-up (HRSD, $p = 0.6638$; BDI-II, $p = 0.4512$).

Scores on the Interpersonal subscale of the Drinker Inventory of Consequences indicated that patients' adverse drinking-related social outcomes improved as well. Participants' scores on the DrInC Interpersonal scale decreased from a mean baseline score of 10.36 to 2.11 at treatment completion ($p < .001$). A paired t -test ($n=8$) indicated that there were no significant differences between the participants' 24- and 32-week DrInC Interpersonal subscale scores ($p=0.9031$).

Study completers

Given the lower rates of study participation at the 32-week follow-up assessment, additional analyses were conducted to investigate whether the 8 women who completed the 32-week follow-up (i.e., study completers) showed significant improvement over time when considered alone. Among the 8 participants who completed the 32-week assessment, 7 attended all 8 sessions of IPT. Results from these analyses indicated that study completers demonstrated significant improvement on each of the measures we assessed: PDA ($\chi=17.98$, $p < .01$), DDD ($\chi=43.86$, $p < .001$), HRSD ($\chi=193.23$, $p < .001$), BDI ($\chi=242.13$, $p < .001$), and the DrInC Interpersonal subscale ($\chi=42.82$, $p < .001$).

The influence of additional co-occurring disorders

In addition to co-occurring AD-MD, the women in our sample also reported high rates of PTSD (57.1%) and BPD (85.7%). Because sample size limitations precluded us from including PTSD and BPD as covariates in the primary analyses, we calculated reliable change index (RCI) scores to examine if women with additional co-morbid conditions (e.g., BPD, PTSD) evidenced reliable change on our five outcome variables from baseline to 24-weeks. We stratified the data based on PTSD and BPD diagnoses, and calculated RCIs for each outcome (i.e., PDA, DDD, HRSD, BDI, DrInC) based on the difference score from baseline to 24-weeks divided by the standard error of the difference score (63). Participants with PTSD diagnoses ($n=4$) evidenced reliable change ($RCI > 1.96$) on measures of depressive symptoms (HRSD $RCI=4.00$; BDI $RCI=4.55$) and adverse drinking-related social outcomes (DrInC $RCI=2.11$), but not drinking behavior (PDA $RCI=-1.79$; DDD $RCI=-0.38$). Those who did not have PTSD diagnoses ($n=5$) showed reliable change across each of the outcomes tested (PDA $RCI=-3.10$; DDD $RCI=4.60$; HRSD $RCI=12.66$; BDI $RCI=4.30$; DrInC $RCI=2.47$). Participants with BPD diagnoses ($n=7$) demonstrated reliable change on measures of depressive symptoms (HRSD $RCI=8.50$; BDI $RCI=6.17$), drinking-related social outcomes (DrInC $RCI=3.47$), and drinking frequency (PDA $RCI=-2.68$), but not drinking intensity (DDD $RCI=-1.43$).

DISCUSSION

Results from this pilot study suggest that IPT is feasible and acceptable to AD-MD women when delivered as an adjunctive intervention in a traditional chemical dependency treatment program. The majority of participants (71.4%) engaged in the individual IPT sessions offered to them; the modal number of IPT sessions women attended was 8. This attendance is notable given that participants were also attending demanding thrice weekly group treatments as part of the standard MICA treatment program. Participants reported high satisfaction with treatment on the CSQ-8 and in follow-up evaluations. Specifically, patients mentioned that the individual IPT sessions helped them to identify connections between their drinking, depression, and interpersonal relationships. IPT study therapists reported that

their patients appeared to respond well to IPT and were readily able to conceptualize their drinking and depression within an interpersonal framework.

In addition, our preliminary results suggest that IPT may be an effective adjunct to chemical dependency treatment to reduce drinking and depressive symptoms. Over the course of treatment, participants reported significant reductions in their drinking behavior. Women's percentage of days abstinent from alcohol (PDA) improved substantially from baseline and by the end of treatment was close to 90%. The data also suggest that over the course of treatment women's drinks per drinking day (DDD) were nearly cut in half. A similar pattern emerged for patients' depressive symptoms. On both the HRSD and the BDI-II, patients' depressive scores decreased from a clinically severe level at baseline to less than mild depression at treatment conclusion. Consistent with IPT's focus on improving interpersonal relationships, at the end of treatment women also reported significantly fewer negative social consequences associated with their drinking. Results suggest that participants' improvements in drinking behaviors, depressive symptoms, and interpersonal functioning were maintained at the 32-week follow-up assessment. Of particular note, the RCI analyses show that improvements in depressive symptoms and interpersonal functioning were found even among women with additional co-morbid conditions such as BPD and PTSD.

Results from this study add to the emerging evidence supporting interpersonally-focused interventions for AD women. In recent reports, Behavioral Couples Therapy (BCT) was found to be effective in reducing women's drinking behavior (64). Although BCT also shares an interpersonal focus, it requires patients to be in a married or cohabitating relationship with a non-substance using partner. However, many AD women in treatment are unmarried, divorced, separated, or in violent relationships, making a couples-based intervention untenable. Because IPT does not require women to be in a partnered relationship, it may apply to a wider range of women across a variety of treatment settings. In fact, IPT has recently been examined among depressed, substance dependent women who are incarcerated (38).

Although our findings offer promise for the use of adjunctive IPT to reduce drinking and depressive symptoms, other investigations of IPT among patients with substance use disorders have reported less robust outcomes. In one study that examined adjunctive weekly IPT delivered in the context of group based methadone maintenance treatment, Rounsaville et al. (1983) found that IPT outcomes at 6 months did not differ from those achieved by a monthly brief intervention (65). At a follow-up evaluation two and a half years later, no differences between the two groups were reported (66). In another clinical trial, Carroll and colleagues (1991) examined 12 weeks of stand alone IPT (as opposed to adjunctive IPT) versus Relapse Prevention among 42 cocaine abusers. Compared with Relapse Prevention, IPT achieved similar clinical outcomes among patients with less severe cocaine abuse, but was not as effective among those with more severe abuse (67). The majority of participants in each of these trials, however, were male. It is unclear the extent to which sex (female vs. male) differences, diagnostic (alcohol dependence vs. opioid and cocaine abuse/dependence) differences, and/or program differences (chemical dependency treatment vs. methadone maintenance) contribute to the discrepant findings.

Cautious interpretation of our results is warranted given the study's limitations, including the lack of a comparison group, small sample size, lack of IPT fidelity ratings, and challenges with retention. Improvements that were observed during treatment may be due to factors other than IPT, such as MICA treatment, placebo effect, spontaneous symptom improvement, or study attrition among participants who were not responding well to treatment. Randomized controlled trials are required to evaluate the effectiveness of IPT as a treatment for women with comorbid alcohol dependence and depression.

CONCLUSIONS

The findings from this pilot study indicate an interpersonally-focused behavioral intervention for co-occurring alcohol dependence and depression shows promise as an adjunctive intervention for women in traditional chemical dependency treatment. Results also contribute to the growing body of research supporting an integrated care model for substance abusing patients with co-occurring depression (68).

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Table 1

Patient demographics and baseline clinical characteristics (n=14)

Demographics	
Age [years, mean, (sd)]	36.4 (12.0)
Race/ethnicity [<i>n</i> (%)]	
African American	3 (21.4%)
Non-Hispanic Caucasian	11 (78.6%)
Family Status	
Married or living with someone [<i>n</i> (%)]	2 (14.3%)
Single, separated, or divorced [<i>n</i> (%)]	12 (85.7%)
Have children under the age of 18 [<i>n</i> (%)]	8 (57.1%)
Education [years, mean, (sd)]	13.1 (2.0)
Employment	
Unemployed [<i>n</i> (%)]	13 (92.9%)
Household Income [US dollars, mean, (sd)]	22,060 (22,129)
Current Major Depressive Disorder [<i>n</i> (%)]	
Independent Depression [<i>n</i> (%)]	13 (92.9%)
Substance-Induced Depression [<i>n</i> (%)]	1 (7.1%)
Substance Use Disorders	
Alcohol Dependence [<i>n</i> (%)]	14 (100%)
Co-Occurring Drug Dependence [<i>n</i> (%)]	7 (50%)
Other Clinical Characteristics [<i>n</i> (%)]	
Borderline Personality Disorder	12 (85.7%)
Post-Traumatic Stress Disorder	8 (57.1%)

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Table 2

	Baseline (n=14)		8-weeks (n=14)		16-weeks (n=14)		24-weeks (n=9)		32-weeks (n=8)		% change	Chi-Square	d
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
PDA	0.55	0.38	0.81	0.22	0.72	0.38	0.87	0.32	0.88	0.35	58.6	20.15***	1.00
DDD	5.92	3.25	4.77	4.13	4.74	5.14	2.93	5.08	0.35	1.00	-50.5	2.92	-0.45
HRSD-17	18.71	3.99	13.15	4.86	10.9	5.95	7.29	4.31	7.67	4.03	-61.1	113.35***	-3.69
BDI-II	29.93	11.08	24.79	12.01	20.64	16.05	12.44	9.11	10.88	11.89	-58.4	155.55***	-2.13
DrInC_Int	10.36	8.44	7.57	5.67	6.00	6.88	2.11	2.37	2.00	4.03	-80.0	18.39***	-1.14

Notes: PDA = percentage days abstinent; DDD = drinks per drinking day; HRSD-17 = Hamilton Rating Scale for Depression; BDI-II = Beck Depression Inventory-11; DrInC_Int = Interpersonal Subscale of the Drinker Inventory of Consequences Scale;

*** p < .001. Percent change (% change) refers to change from baseline to 24-weeks.