

# Managing Depressive Symptoms in Substance Abuse Clients During Early Recovery: A Review of the Literature\*

**Update**

*Reviews Literature From January 2011  
Through June 2011*

*Treatment Improvement Protocol (TIP) Series*

**48**

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*\*This document is available online only (<http://www.kap.samhsa.gov>) and supports TIP 48, *Managing Depressive Symptoms in Substance Abuse Clients During Early Recovery*.*



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# UPDATED FINDINGS FROM THE LITERATURE, JUNE 2011

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## **Updated Findings From the Literature, June 2011**

This Treatment Improvement Protocol (TIP) Literature Review Update includes findings published between January 2011 and June 2011.

### **Overview**

Numerous articles were published during the 6-month period of this review, and seven were selected for this update because of their emphasis on co-occurring depression and substance use disorders (SUDs).

### **Cognitive–Behavioral Therapy for Co-occurring SUDs and Depression**

The articles included in previous literature reviews presented favorable findings regarding cognitive–behavioral therapy (CBT) as a treatment for depression and SUDs. This review includes two articles that present new findings about the effectiveness of an adapted CBT intervention led by substance abuse counselors.

Watkins et al. (2011) conducted a nonrandomized, community-based trial of CBT treatment for residential substance abuse patients who also had persistent depressive symptoms (i.e., symptoms that were measured on two separate occasions after at least 2 weeks of sobriety). The study was designed to compare the effectiveness of residential substance abuse treatment—termed usual care (UC)—with UC plus an adapted CBT group treatment program for depression called Building Recovery by Improving Goals, Habits, and Thoughts (BRIGHT).

UC comprised individual substance abuse treatment counseling, group therapy, vocational skills training, participation in 12-Step programs (i.e., Alcoholics Anonymous, Narcotics Anonymous, and Cocaine Anonymous), recreational therapy, and family services. The UC-plus-BRIGHT program also included sixteen 2-hour sessions, conducted twice per week for 8 weeks, and one 45-minute individual orientation session, designed to increase client retention and motivation. The BRIGHT program was divided into four modules: thoughts, activities, people, and substance abuse. The first three module topics are common to most CBT programs, and the researchers developed the fourth based on the CBT principles used in the first three modules. The fourth module emphasizes the connections among thoughts, behaviors, mood, and substance abuse.

Five outpatient substance abuse counselors were trained to deliver the BRIGHT program. These counselors received 2 days of didactic training, one opportunity to lead the BRIGHT program in their outpatient setting, weekly supervision by a licensed clinical psychologist, and a 1-day booster training before providing the program to study participants. All BRIGHT group sessions were recorded and coded for counselor adherence and competence; the average adherence rate was 94 percent, and the average competence score was 4.1 (on a 7-point scale), which suggests the counselors adhered to, and competently administered, effective CBT.

Four residential treatment programs were used in this study. The type of treatment offered at each site alternated every 4 months for 2.5 years to ensure the findings were not affected by differences among the sites. Findings from the study evaluations, which included program

assessment, anonymous staff questionnaires, and qualitative interviews, suggested the sites did not significantly differ from one another or across study years.

In total, 299 patients with co-occurring SUDs and persistent depressive symptoms were included in the study: 159 received UC only, and 140 received UC plus BRIGHT. Study participants each had to have a Beck Depression Inventory-II (BDI-II) score higher than 17, indicating moderate-to-severe depression; had to have the ability to speak English; and had to be in residential substance abuse treatment. No statistically significant demographic, mental health, or substance use differences were found among participants in either type of treatment. Participants who were on antidepressant medications were allowed to keep taking them, but Watkins et al. stated that inclusion of antidepressant use as a covariate did not change the statistical significance of treatment outcomes.

Initially, participants at the largest of the four sites were assigned to UC plus BRIGHT, and participants at the remaining three sites were assigned to UC only. After completion of the study's first 4 months, the assignments were reversed (i.e., participants from the largest site received UC only and those at the three smaller sites received UC plus BRIGHT). This pattern of alternating assignment continued until the final year of the study when, for logistical reasons, the BRIGHT intervention was delivered at only one site.

The primary mental health outcomes assessed in this study were changes in participants' depression symptoms (as measured by the BDI-II) and mental health functioning (as measured by the Short Form Health Survey 12, version 2.0). The primary substance abuse outcomes were the number of days of alcohol and substance use as a percentage of the total days available for use (i.e., days not in residential treatment) during the previous 30 days. Study participants were also interviewed at baseline and at 3- and 6-month intervals to assess their levels of depression and substance abuse.

Both the 3- and 6-month interviews showed the UC-plus-BRIGHT participants reported significantly fewer depressive symptoms and increased overall mental health functioning when compared with the UC-only participants. However, participants in both types of treatment reduced their depressive symptoms from baseline levels.

Because all participants were in residential treatment, the substance abuse outcome was examined only at the 6-month interval and only in those who had "days available for use" within the specified window of 30 days (which was 64.8 percent of the sample). However, among the participants with days available for use, those who received the BRIGHT intervention reported fewer days of substance abuse, compared with those who received UC only. In fact, the 6-month postbaseline interview showed that UC-plus-BRIGHT participants reduced their substance use by more than half when compared with the UC-only participants.

Watkins et al. concluded that the BRIGHT trial demonstrated that providing UC plus BRIGHT in residential substance abuse treatment settings decreases both depression and substance use. The study also provided evidence that substance abuse counselors can effectively deliver BRIGHT, when adequate training and supervision are provided.

The authors identified possible limitations in using the BRIGHT intervention in other substance abuse treatment facilities:

- **Training and Supervision.** The substance abuse counselors who led the BRIGHT program received significant training and supervision, which may not be feasible in many public substance abuse programs. Substance abuse counselors do not typically have experience, involvement, or training in CBT for behavioral health issues such as depression, so they would need substantive training to be qualified to lead CBT sessions.
- **Number of Counselors and Group Size.** In this study, BRIGHT sessions were led by two counselors and limited to 10 patients. Many public programs may be unable to provide a second counselor or to limit the number of patients per session, because of financial constraints.
- **Setting.** This study was conducted in four residential programs that provided treatment over a 3- to 6-month period, so it remains unknown whether the BRIGHT approach is feasible and effective in a 28-day program or outpatient setting.

Watkins et al. noted that the study itself had limitations, including its being a nonrandomized trial. Study results were also limited because patients' self-reports of problem substance abuse and depression were not confirmed through urinalysis or a clinical interview, and the study lacked a thorough screening process for comorbid conditions. The authors stated that a question in need of further study is whether CBT influences both substance abuse and depression directly or whether the reduction in depression itself leads to reduced substance abuse. Despite the study's limitations, it supported previous research that demonstrated the effectiveness of CBT in treating patients with co-occurring depression and SUDs.

A companion article by Hepner, Hunter, Paddock, Zhou, and Watkins (2011) assessed the effectiveness of training addiction counselors to lead group CBT sessions for depression, specifically the BRIGHT program discussed in Watkins et al. (2011).

In selecting the substance abuse counselors to be trained to lead the BRIGHT program, the study researchers looked for those who had an interest in learning CBT, had been employed as substance abuse counselors at their agencies for at least 1 year, were willing to co-lead CBT groups, and were open to using a structured approach based on the adapted treatment manual the researchers developed. Of the five counselors chosen, only one had previous CBT training, experience, and supervision.

The previously described four-module training manual was used to train the counselors in providing CBT to people with co-occurring SUDs and depression. (See the above review of Watkins et al. [2011] for more details about the counselor training.) Throughout the 2.5-year study period, counselors received weekly group support from a doctorate-level psychotherapist who had experience in CBT treatment for SUDs. These sessions addressed (1) individual clients' progress, based partially on regularly administered Patient Health Questionnaires; (2) the psychotherapist's review of previous sessions—all sessions were digitally recorded and randomly selected for fidelity coding; and (3) preparation for upcoming sessions.

Two measures showed the BRIGHT therapy to be effective: (1) counselor fidelity to the treatment, based on adherence and competence measures developed for the BRIGHT therapy; and (2) patients' perception of the treatment's effectiveness as measured by self-reports.

The authors concluded that the study demonstrated that SUD counselors can be trained to effectively lead group CBT sessions for patients with depression. The authors noted, however, that although the counselors' skills improved over time, it remains unknown whether this improvement is the result of increasing experience, ongoing feedback from a clinical supervisor, or both. In addition, the counselors all had experience in the group-treatment approach typical of addiction treatment programs, so this familiarity with a group setting may have given them skills transferrable to the group approach used in the BRIGHT program.

The first limitation of this study is that fidelity-measurement tools were established specifically for this project. Although they were based on previously validated measures, the adapted tools have not been formally validated. Second, although the study showed that SUD counselors were effective at leading group CBT for depression, these counselors received more training and supervision than most public programs are likely to offer. The training also included resources that supported high-quality implementation (such as supervision and weekly support from an experienced psychotherapist), and such resources may not be available to other programs. Thus, the positive study results cannot be guaranteed at all substance abuse treatment facilities implementing a similar program. Third, only five SUD counselors were trained and studied, and their experience with leading BRIGHT may not be generalizable to all SUD counselors.

The authors noted that a major consideration in implementing such a project is that it demands significant time and effort from SUD counselors that are outside their typical job role and daily responsibilities (and it involves CBT treatment for depression, which may be outside their scope of practice). Many programs could not give counselors the extra time needed to receive proper training or to offer them the clinical supervision that helped make the BRIGHT study so effective. Therefore, substance abuse treatment centers that plan to train counselors in CBT for depression may want to train only selected counselors.

## **Additional Treatments for Depression**

Magidson et al. (2011) conducted a randomized controlled trial to assess the effectiveness of a short-term group behavioral activation-based approach—called Life Enhancement Treatment for Substance Use (LETS ACT)—on residential substance abuse treatment retention, changes in patients' depression severity, and behavioral activation outcomes. *Behavioral activation* refers to measurable changes in behavior stemming from increased levels of positive reinforcement. LETS ACT centers on reinforcement theory, which is based on the premise that positive reinforcement in a patient's life can lessen depressive symptoms. LETS ACT measures the *environmental rewards* of potentially rewarding goals and activities to positively reinforce patients as they change behaviors (termed *overall activation*) that are related to depression and substance abuse. LETS ACT is adapted from the Brief Behavioral Activation Treatment for Depression.

Study participants were 58 adults who were receiving treatment in an inner-city residential substance abuse treatment facility and who had co-occurring SUDs and depression. Participants were randomly divided into two groups: one received LETS ACT, and the other (the control group) received only supportive counseling (SC). The LETS ACT group sessions focused on goals that can be set across many life areas to reinforce positive behavior and lifestyle changes, and participants were given pocket-sized manuals that included all treatment forms and homework exercises. SC included group sessions, unconditional support and reflective listening during those sessions, and the opportunity for participants to set the session discussion topics. Participants in both groups were similar demographically and in levels of depression and substance abuse.

Each treatment group attended five sessions over a 2.5-week period, and 48 of the subjects completed the study. The end-of-treatment assessment showed that participants in the LETS ACT group were significantly less likely to drop out of substance abuse treatment than those in the SC group—3.4 percent compared with 24.1 percent (which was the typical dropout rate for this substance abuse treatment center). However, a limitation of the study is that it did not assess the patients who dropped out of treatment, so it remains unknown why the LETS ACT group had a much higher retention rate than the SC group.

Although members of the LETS ACT group also showed significant increases in their overall levels of activation when compared with SC participants, no significant differences were found between the groups in relation to changes in environmental rewards from baseline to posttreatment. However, the authors noted that the facility used for the study was an inner-city center with limited resources, so it was difficult to diversify potentially rewarding activities. The authors suggested that the lack of diversity in potentially rewarding activities may explain the lack of an effect on reinforcement derived from these activities (i.e., environmental rewards).

In regard to depressive symptoms, both groups demonstrated a five-point reduction in depression scores on the BDI-II, but the authors hypothesized that the reduction in both groups may have resulted from the patients' abstinence from substance use rather than the group therapy sessions. Accordingly, the authors recommend that a long-term study be conducted to assess depression levels after treatment and to determine relapse rates among those who complete the LETS ACT program.

The authors suggest that, although LETS ACT may have promise in treating people with co-occurring SUDs and depression, additional research is needed to determine its value in increasing treatment retention rates.

## **Predictors and Causation of Co-occurring SUD and Depression**

As evidenced in TIP 48, depression can contribute to substance abuse treatment dropout. Tate et al. (2011) analyzed predisposing factors (e.g., age, race, and gender) that make a person with an SUD and co-occurring depression more likely to remain in treatment. Although multiple studies have been conducted about factors predicting retention among patients who are either abusing substances or have depression, little research exists regarding such factors in people with co-occurring SUD and depression.

This study used two types of psychotherapy interventions—one that addressed depression and another that did not. The study group comprised 253 adults in an outpatient treatment program for veterans with co-occurring SUDs and depression. All participants received antidepressant medication, random toxicology screens, and assessment interviews. Participants also had to forgo any additional formal treatment for depression or substance dependence during the study, other than medication appointments with their psychiatrists and community 12-Step meetings.

On admission, eligible participants were sequentially assigned to the treatment group with the next starting date (starting dates occurred every 4 weeks, staggered by treatment type). Both groups received 36 treatment sessions over a 24-week period. One group received treatment using Integrated CBT (ICBT), a new group treatment that combines elements of CBT treatment for depression and CBT for developing coping skills related to addiction. The other group was treated through Twelve-Step Facilitation (TSF) therapy, based on the TSF intervention in Project MATCH (Matching Alcoholism Treatments to Client Heterogeneity). The approach was modified for a group format and solely addressed alcohol and drug use. Both ICBT and TSF have been empirically validated. The study tracked participant attendance and reasons for nonattendance.

After evaluation, researchers found that the main factors affecting session attendance were age, ethnicity, pretreatment substance used, level of social support, and a recent acute *health event* (e.g., a heart attack or stroke). Older adults attended significantly more sessions than younger patients, with the number of sessions attended increasing with a subject's age: 47.2 percent of subjects ages 20–39 dropped out of treatment compared with 26.5 percent of subjects ages 40–49, 22.9 percent of subjects ages 50–59, and 7.1 percent of subjects ages 60–69. Caucasians attended more sessions than did minorities (19.1 sessions compared with 14.8). Subjects who used only alcohol in the 30 days before treatment attended more sessions than those who used either only drugs or both alcohol and drugs (20.0 compared with 16.1). Those who had experienced a recent acute health event also attended more sessions than those who had not (23.6 compared with 19.5), as did participants with low social support as opposed to high support (22.1 compared with 18.9). Many other possible factors were found *not* to have a significant effect in either group, including severity of depression, neuropsychological functioning, and motivation for treatment.

Tate et al. acknowledged some limitations to the study, including that the sample comprised veterans, most of whom were male, Caucasian, and recipients of prior treatment; thus, the findings may not be generalizable to a larger population, particularly for first-time clients. Also, the study included only outpatients, so it may not be possible to generalize findings to people receiving other types of substance abuse treatment. In addition, the impact of random group assignment, as opposed to taking client preferences into account, is not known. The authors noted that the study was performed under the auspices of the Department of Veterans Affairs, so clients' treatment was free. Therefore, it is unknown whether dropout rates could be lowered if patients became responsible for some, or all, of the cost of care and would then, perhaps, feel more motivated to attend.

Najt, Fusar-Poli, and Brambilla (2011) support the original TIP 48's findings that depression at treatment intake is predictor of negative long-term treatment outcomes. The authors reviewed 27

articles about potential predictors and clinical outcomes of people with co-occurring disorders (CODs), including depression and substance abuse. The articles were located through an electronic search of medical and psychological databases and a manual search of bibliographies.

The articles reviewed supported the hypothesis that people with CODs have a poorer outcome prognosis (i.e., chance of a negative course of mental health or SUDs, such as relapse) than those with a single diagnosis. The articles also demonstrated that people who exhibit symptoms of an SUD prior to experiencing those of depression have better clinical outcomes than those who have a primary mood disorder (i.e., a mental disorder that occurs before an SUD). In addition, the articles suggested that poor outcomes in people with CODs were most likely in those with comorbid major depressive disorder or post-traumatic stress disorder. Other predictors were noted, but they were not specifically related to depression. Because major depressive disorder (MDD) could be a predictor of CODs, the authors noted that substance abuse prevention that is focused on this (or other mood disorders) could help prevent future COD problems.

Cohn et al. (2011) conducted a study to evaluate the distinctions between *primary depression* (a past or current depression episode that met the *Diagnostic and Statistical Manual of Mental Disorders*, Third Edition, Revised [DSM-III-R] [American Psychiatric Association, 1987] ) criteria for MDD or dysthymia and which occurred independent of an SUD, or at least after 6 months of substance use abstinence) and *secondary depression* (a current or past depressive episode that met DSM-III-R criteria for MDD or dysthymia, and which happened after onset of an SUD or within 3 months of heavy alcohol or drug use) in persons receiving substance abuse treatment. This study was designed to examine whether people with primary depression have unique clinical and vulnerability characteristics.

For this study, the researchers recruited 286 individuals who had taken part in a larger study of 418 participants in four treatment outcome studies at the Rutgers University Center for Alcohol Studies. All patients had sought treatment for substance abuse, 76 percent were male, and 82 percent were undergoing inpatient treatment. The individuals had been screened for SUDs through the use of several standard objective tests, including the Structured Clinical Interview for DSM-III-R, the NEO Personality Inventory–Revised (NEO-PI-R), and several substance abuse-related measures. The subjects were assessed at the start of the study through retrospective reports to determine whether they had primary (21 percent of subjects), secondary (24 percent), or no depression (55 percent). Followup assessments took place 6 and 12 months after baseline. No actual treatment was provided to the participants; the study’s goal was simply to determine distinctions between the subject groups.

Researchers found that subjects in the primary and secondary depression groups had equally severe SUDs and more severe SUDs than those subjects without depression. In addition, treatment-seeking patients who had primary depression had more severe and disruptive depression, higher levels of family risk for a MDD, and higher personality vulnerabilities (specifically, lower extraversion and higher neuroticism on the NEO-PI-R). The authors concluded that this study suggests that people with primary depression may need unique treatment that targets depression symptoms in addition to the SUD. In addition, early identification and targeted prevention could help people with primary depression prevent SUDs from developing.

One of the study's strengths was that the subject groups were demographically and diagnostically diverse. Limitations of the study included that researchers relied on retrospective reports to determine whether the depression was primary or secondary to the onset of the SUD. In addition, the three depression subtypes were not equally distributed among the four treatment sites from which the participants came, so the authors suggested that site be used as a covariate in future treatment outcome analyses. The authors further recommended that future studies examine causal pathways that connect personality vulnerability (common to those with primary depression) to future risk for SUDs and MDDs in people at risk for both disorders.

Boden and Fergusson (2011) performed a systematic literature review of 13 studies published since 1980 that pertain to a link between alcohol use disorders (AUDs) and MDD. This literature review evaluates arguments that a possible causal relationship exists between the two disorders. The studies reviewed were all longitudinal or cross-sectional epidemiological studies with at least 400 study participants, and all but one reported an adjusted odds ratio for the links between the two disorders. Although the authors acknowledged that the literature does not establish a definitive causal link between AUD and MDD, they argued that control of confounding factors in many of the studies suggests that a link may exist. The authors noted the moderately strong evidence that the presence of one disorder doubles a person's risk of having the other one. The most likely association is one in which AUD increases the risk of MDD. The authors also clearly state, however, that independent association may cause the association between the two disorders.

The article noted three other common explanations for the correlation found between the two disorders: (1) an AUD could activate MDD because of the impact of alcohol abuse on a person's social, economic, and legal circumstances, but this idea was not supported by the literature; (2) the two conditions are genetically linked in relation to neurotransmitter functioning, which was supported by the studies; and (3) alcohol use may lead to metabolic changes that increase the risk of MDD, which was also supported by previous studies.

Although the studies reviewed in this article suggested a causal link between AUD and MDD, the authors stated that additional research is needed regarding the association between the two disorders. For instance, several studies indicated that people with MDD may consume alcohol as self-medication, which suggests a causal pathway from depression to AUD; however, those studies did not assess a possible reversed causal process.

The authors identified several implications of the review's findings, including that some cases of MDD may remit with the treatment of AUD; therefore, treatment of MDD should include assessment and treatment of possible AUD. Similarly, a combination of treatments for AUD and MDD may be beneficial for individuals who have both disorders and report self-medicating with alcohol.

## **Methodology**

The methodology used in the development of TIP 48 was used in the preparation of this update (see [http://www.kap.samhsa.gov/products/manuals/tips/pdf/TIP48\\_LitRev.pdf](http://www.kap.samhsa.gov/products/manuals/tips/pdf/TIP48_LitRev.pdf)).

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