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Does group cognitive–behavioral therapy module type moderate depression symptom changes in substance abuse treatment clients?

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ABSTRACT

Little is known about the effect of group therapy treatment modules on symptom change during treatment and on outcomes post-treatment. Secondary analyses of depressive symptoms collected from two group therapy studies conducted in substance use treatment settings were examined ($n = 132$ and $n = 44$). Change in PHQ-9 scores was modeled using longitudinal growth modeling combined with random effects modeling of session effects, with time-in-treatment interacted with module theme to test moderation. In both studies, depressive symptoms significantly decreased during the active treatment phase. Symptom reductions were not significantly moderated by module theme in the larger study. However, the smaller pilot study's results suggest that future examination of module effects is warranted, given the data are compatible with differential reductions in reported symptoms being associated with attending people-themed module sessions versus thoughts-themed sessions.

1. Introduction

Co-occurring depression is common among substance use treatment clients (Flynn & Brown, 2008; Watkins et al., 2004) and is associated with poorer treatment outcomes (Compton, Thomas, Stinson, & Grant, 2007; Hasin et al., 2002; McGovern, Xie, Segal, Siembab, & Drake, 2006) and higher treatment costs (Dickey & Azeni, 1996; Hoff & Rosenheck, 1998). Providing depression care to alcohol and other drug (AOD) treatment clients with co-occurring disorders (COD) improves outcomes (Grella & Stein, 2006). To improve access to mental health care, interventions to address depressive symptoms among the AOD treatment population have received increasing attention. Many of these efforts have adapted individual-based behavioral interventions for delivery in the group setting, given the widespread use of group therapy in AOD treatment programs (Substance Abuse and Mental Health Services Administration, Office of Applied Studies, 2010) and its practical advantages including cost considerations (Bright, Baker, & Neimeyer, 1999; Jacobs & Goodman, 1989; Monti, 2002). Examples include an adaptation of Project MATCH's Cognitive–Behavioral Coping Skills to the group setting and incorporating depression treatment into it (Brown et al., 2006); developing a manualized group CBT (GCBT) intervention to address depressive symptoms for substance use treatment counselors to deliver (Watkins et al., 2011); and adapting a manualized GCBT intervention to integrate AOD and depression treatment in an outpatient setting (IGCBT) that can also be delivered by paraprofessionals (Hunter et al., 2012).

While group therapy is practical for AOD treatment settings, assessing how features of the group therapy experience are related to client outcomes is an ongoing area of research. One key example is the content of the material delivered in group therapy. The aforementioned examples of group therapy interventions targeting COD clients were delivered in modules, or thematically similar sets of sessions. A modularized format has the practical benefits of ease of delivery and increasing the number of entry points by allowing clients to enroll on an open- or semi-open basis. Lengthy waits could also be undesirable in populations with AOD disorders, as clients are oftentimes mandated to attend treatment within a specific timeframe. While modular treatments maximize the number of clients who benefit from treatment, their use raises questions about whether certain modules are associated with greater improvements in client outcomes (Drapkin, Tate, McQuaid, & Brown, 2008). For example, there is evidence to suggest that the behavioral activation component of CBT may be the most effective aspect and other components are less needed to derive changes (Daughters, Magidson, Schuster, & Safren, 2010; Ekers, Richards, & Gilbody, 2008).

Few studies have examined the impact of modularized treatment in AOD treatment settings. As behavioral treatment protocols become more standardized and modular in format, understanding the effect of particular treatment modules becomes paramount. In exception, Witkiewitz and colleagues (Witkiewitz, Bowen, & Donovan, 2011; Witkiewitz, Donovan, & Hartzler, 2012) examined how exposure to different treatment modules, based on therapists' evaluation of client needs, was associated with changes in negative mood (Witkiewitz

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et al., 2011) or self-efficacy (Witkiewitz et al., 2012) and drinking among alcohol dependent patients receiving individualized behavioral treatment as part of the multisite randomized COMBINE study (Combine Study Research Group, 2003). In these studies, exposure to a particular treatment module was associated with changes in the relationships between negative mood (for the 'coping with craving and urges' module) or self-efficacy (for the 'drinking refusal skills' module) and drinking during and following treatment. More specifically, Witkiewitz et al. (2011) demonstrated that exposure to the 'coping with craving and urges' module which incorporated cognitive–behavioral strategies for addressing alcohol craving and urges was related to reductions in the association between negative mood (as measured by the profile of mood status (McNair, Lorr, & Droppleman, 1992) and drinking reported both during treatment and 1-year following treatment. In other words, exposure to the coping module was associated with a weaker relationship between negative mood states and drinking. In Witkiewitz et al. (2012), the investigators found that exposure to the 'drinking refusal skills' module was related to improvements in self-efficacy post-treatment and reductions in drinking both during and following treatment. The study also demonstrated that self-efficacy partially mediated the impact of the module on drinking. Moreover, these studies found a dose–response effect, such that individuals who received the module more times had a stronger response to it. These studies, although conducted within an individualized behavioral treatment format where exposure was not randomized, suggest the relevance of examining behavioral treatment module exposure on symptom reporting and outcomes in AOD treatment settings.

A previous study using data from an integrated group cognitive–behavioral therapy examined the effect of initial treatment focus (i.e., the module theme upon client entry into the therapy group) on depressive symptoms post-treatment, and significant differences with respect to initial treatment focus were not found (Drapkin et al., 2008). However, the relationship between depressive symptoms and module theme during the active treatment phase has yet to be examined. Data collected during the active treatment phase would allow for an analysis of whether there is a relationship between not just initial module but rather module theme more generally and depressive symptoms. When feasible, enrolling clients into the group when a relatively more effective module theme is offered might be preferable to maximize the benefit to the client, particularly if there is a risk of the client leaving treatment early. Also unknown is whether the change in client symptoms is moderated by module theme, which has implications for the ordering of modules – e.g., module themes associated with greater change for clients who have participated for longer periods of time in the intervention would be more beneficially delivered toward the end of a client's tenure in group therapy.

Also previously unexamined in the analyses of group treatment module effects is whether the results are sensitive to modeling the correlation (i.e., clustering) of client symptom scores due to clients' common attendance of the same open-enrollment therapy group. Since ignoring such clustering generates a risk of under-estimating the standard errors and may lead to falsely statistically significant claims, we use a statistical approach that takes into account clustering (Paddock, Hunter, Watkins, & McCaffrey, 2011; Paddock & Savitsky, 2013). In the reported results, we note whether differences emerge due to clustering.

In this paper, we examine module theme in relationship to depressive symptoms reported during and post-treatment among clients receiving concurrent substance abuse treatment in either a residential or outpatient setting. Given the previous literature regarding the effectiveness of the behavioral activation component of CBT, we hypothesized that the treatment modules that emphasized behavioral change (i.e., the "activities" and "people" modules over the "thoughts" module) would be more effective in reducing depressive symptoms during the active treatment phase. To put our findings into context given Drapkin et al.'s (2008) analyses of module theme's effect on depressive symptoms, we also examine the relationship between initial treatment focus and post-treatment depressive symptoms. Given Drapkin et al.'s (2008) findings, we hypothesized that the first module that participants were exposed to during their treatment would not be associated with post-treatment depressive symptom reporting.

2. Materials and methods

2.1. Settings

The settings for the two studies were publicly-funded AOD use treatment programs located in Los Angeles County, with one study of GCBT for depression conducted in four residential treatment settings (GCBT) and the other of integrated GCBT for depression and substance use disorders in a single outpatient setting (IGCBT). In both studies, the group intervention was delivered alongside treatment as usual. All programs were part of a large AOD use treatment organization that included outpatient, residential and detoxification services at different locations across the county. Both studies included clients with depressive symptoms who were asked to assess their depressive symptoms regularly during the active treatment phase.

2.2. Study designs

2.2.1. GCBT

The GCBT study was a hybrid efficacy/effectiveness (stage 2/3) trial (Carroll & Rounsaville, 2003) to examine whether cognitive–behavioral therapy for depression presented as a group treatment by AOD treatment counselors would reduce depressive symptoms (Watkins et al., 2011). One hundred and thirty-two study participants attended at least one GCBT session. GCBT consists of 16 two-hour sessions delivered twice weekly over the span of 8 weeks, with sessions divided into four-session modules, each of which is focused on one of four themes: thoughts, activities, people and substance abuse. For example, the thoughts module consisted of lessons that helped participants identify harmful thoughts and feelings, understand the link between their thoughts and feelings, and find replacements for harmful thoughts and feelings. The activities module included information about how pleasant activities can help one's mood, how participants' can identify pleasant activities, and how to overcome obstacles to participating in activities. In this module, participants were asked to try to engage in pleasant activities as their 'homework' between sessions and report on them during the group sessions. The people module focused on interpersonal relationships and covered information about forming healthy relationships, assertive communication skills, and practicing newly acquired skills to improve relationships and mood. The substance abuse module was a summary of previous modules that incorporated its relation to substance use. It consisted of four lessons about the relationship between substance use and mood, how harmful thoughts could lead to both depression and substance use, how activities can support or hinder recovery, and how interactions with people can help or harm recovery. The intervention material was adapted from Lewinsohn, Muñoz, Youngren, and Zeiss (1986) and Muñoz, Ippen, Rao, Le, and Dywer (2000). The adaptation sought to improve the intervention's appropriateness for clients in residential AOD treatment and to increase the likelihood that AOD treatment counselors could successfully implement the intervention. Enrollment into the group was semi-open, as new clients could enter the group at the beginning of each of the four modules (i.e., every 2 weeks).

2.2.2. IGCBT

The IGCBT study was a stage 1a/b study to develop and test an integrated GCBT for treating co-occurring depression and substance use disorders (Hunter et al., 2012) in outpatient AOD treatment settings. Forty-four study participants attended at least one IGCBT session. IGCBT