

A Brief Behavioral Activation Treatment for Depression

A Randomized Pilot Trial Within an Inpatient Psychiatric Hospital

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The brief behavioral activation treatment for depression (BATD) is a relatively uncomplicated, time-efficient, and cost-effective method for treating depression. Because of these features, BATD may represent a practical intervention within managed care-driven, inpatient psychiatric hospitals. Based on basic behavioral theory and empirical evidence supporting activation strategies, we designed a treatment to increase systematically exposure to positive activities and thereby help to alleviate depressive affect. This study represents a pilot study that extends research on this treatment into the context of an inpatient psychiatric unit. Results demonstrate effectiveness and superiority of BATD as compared with the standard supportive treatment provided within the hospital. A large effect size was demonstrated, despite a limited sample size. The authors discuss the limitations of the study and future directions.

Keywords: *depression; behavioral treatment; inpatient care; randomized trial*

Researchers suggest that behavioral interventions for depression (i.e., behavioral activation) may be sufficient for the alleviation of

overt depressive symptoms, modification of maladaptive cognitions, and improvement of life functioning (Gortner, Gollan, Dobson, & Jacobson, 1998; Jacobson, Dobson, Truax, & Addis, 1996). This philosophy has resulted in the recent development of behavioral activation treatment paradigms that focus on modifying environmental contingencies for the purpose of alleviating depressive affect (Lejuez, Hopko, & Hopko, 2001, 2002; Martell, Addis, & Jacobson, 2001). Initial reports support efficacy of these interventions within outpatient settings (Jacobson et al., 1996; Lejuez, Hopko, LePage, Hopko, & McNeil, 2001) and as an adjunct to pharmacotherapy (Hopko, Lejuez, McNeil, & Hopko, 1999).

This study was designed to further explore the utility of a behavioral activation intervention within the context of an inpatient psychiatric hospital. Traditionally, a variety of group and individual therapeutic approaches has been used to treat depression within this setting (Brabender, 1993). Although many of these approaches have demonstrated efficacy, the time-intensive nature of these treatments is inconsistent with the decreased length of hospitalization mandated by managed care organizations. Problematically, this situation may result in less impact on depressive symptoms and global functioning at discharge and in increased risk for future hospitalization (Lieberman, Wiitala, Elliott, McCormick, & Goyette, 1998; Wickizer & Lessler, 1998). Considering emerging time and resource limitations together with the contention that behavioral therapies are the psychosocial treatment of choice for most mental disorders treated in psychiatric hospitals (Lieberman & Bedell, 1989), we suggest the importance of improving the quality and efficiency of brief behavioral interventions within this context.

Based on research suggesting the utility of treating depression with behavioral activation treatments that increase activity and associated positive consequences (e.g., Jacobson & Gortner, 2000), our behavioral activation treatment for depression (BATD) (Lejuez, Hopko, & Hopko, 2001) has potential value for patients admitted to an inpatient psychiatric hospital for several reasons. First, the time-efficient and cost-effective nature of BATD provides distinct advantages within the context of managed care-driven inpatient psychiatric hospitals. Second, the manualized approach of BATD allows for ease of implemen-

tation, including the absence of difficult skills for therapists to acquire. Finally, this protocol easily is tailored to the ideographic needs of patients, allowing for patient and practitioner to collaborate in identifying individualized target behaviors, goals, and rewards that serve to reinforce nondepressive or healthy behavior. Based on these advantages, this study was designed to examine effectiveness of BATD as compared with supportive psychotherapy (SP) as a treatment for inpatients diagnosed with clinical depression.

METHOD

PARTICIPANTS

The sample consisted of 25 patients who were hospitalized during an index period of 104 weeks (November 1999 to November 2001) at William R. Sharpe Jr. Hospital, a 150-bed, acute- to medium-care state psychiatric facility that is accredited by the Joint Commission on Accreditation of Healthcare Organizations and located in rural West Virginia. The sample consisted of 16 men (64%) and 9 (36%) women, with a mean age of 30.5 years ($SD = 9.0$) and a mean education level of 12.1 years ($SD = 1.7$). Ethnic distribution included 24 Caucasians (96%) and 1 African American (4%). Marital status was as follows: 16 individuals were single (64%), 4 were married (16%), and 5 were divorced (20%). The current admission was the first to Sharpe Hospital for 16 patients (64%). The average number of previous admissions for returning patients ($n = 9$, 36%) was 4.4 ($SD = 3.0$). The average length of stay for patients included in the study was approximately 25 days.

All patients enrolled in the study were treated within the same hospital unit. The 27-bed coeducational unit accepts general admissions on a rotating basis with three other units. Following admission, the unit psychologist or psychiatrist conducted an unstructured diagnostic interview. To be included in the study, patients must have received a principal diagnosis of major depression. Coexistent diagnoses included substance abuse or dependence ($n = 11$, 44%), anxiety disorders ($n = 10$, 40%), and borderline personality disorder ($n = 4$, 16%). Patients

were not included in the study if they had a history of psychosis or if they were currently diagnosed with a psychotic disorder. In addition to the psychosocial interventions provided to the patients (i.e., BATD or supportive psychotherapy), all patients were simultaneously treated with antidepressant medication (i.e., tricyclic antidepressants or selective serotonin reuptake inhibitors). Patients were enrolled in the study for 2 weeks or until discharge, whichever came first ($M = 12.7$ days for BATD; $M = 14.0$ days for supportive psychotherapy). All patients completed informed consent procedures prior to participating in the study.

PROCEDURE

Following inclusion into the study, patients were randomly assigned either to the BATD ($n = 10$) or to the SP condition ($n = 15$). Due to administrative procedures and data suggesting that assessment instrument scores may be more valid following an initial hospital acclimation period (Hopko, Averill, Cowan, & Shah, 2002; Spence, Goldney, & Costain, 1988), participants did not begin treatment until several days after admission ($M = 4.2$ days for BATD; $M = 5.1$ for supportive psychotherapy). Baseline depressive symptoms were assessed prior to the first therapy session using the Beck Depression Inventory (BDI) (Beck & Steer, 1987). The BDI was given at posttreatment on Day 14 or at discharge if earlier than 14 days.

INTERVENTIONS

BATD. BATD, which is comprehensively presented elsewhere (Lejuez, Hopko, & Hopko, 2001, 2002; Lejuez, Hopko, LePage, et al., 2001), is based on the premise that increased activity (i.e., activation) and the resulting contact with positive consequences is sufficient for the reduction of depressive symptoms and the subsequent increase of positive thoughts and feelings. Initial sessions consist of assessing the function of depressed behavior, information gathering, establishment of patient rapport, strategies for reducing reinforcement for depressed behavior, and introduction of the treatment rationale. Next, an activity hierarchy is constructed in which up to 15 activities are rated ranging

from *easiest to most difficult* to accomplish. Using a master activity log (see sample in appendix) and behavioral checkout to monitor progress (similar to the master log but kept in the presence of the patient to enhance accountability and compliance), the patient moves through the hierarchy in a systematic fashion, progressing from the easiest through the most difficult behaviors. At the start of each session, the behavioral checkout form is examined and discussed, with the following daily goals being established as a function of patient success or difficulty. Master-level clinicians who had extensive training and experience with cognitive-behavioral interventions provided BATD. Through weekly supervision meetings, a licensed psychologist with extensive knowledge of BATD principles and procedures ensured adherence to the treatment protocol. According to the modified inpatient format for BATD, patients were seen three times per week for approximately 20 minutes by the clinician to assess progress and adjust goals. Consistent with the token economy used on the treatment unit (LePage, 1999), tokens were provided for the achievement of BATD-related goals. Tokens could be exchanged for off-unit grounds passes, long distance phone cards, snacks, or permission to participate in other community activities.

SP. Consistent with patients assigned to the BATD group, patients in the nontreatment control group also met with a master-level clinician three times per week (individually) for approximately 20 minutes. Patients in the SP group were involved in a nondirective discussion with the clinician in which they were encouraged to share their experiences. The therapist assumed a supportive, facilitative role but did not teach specific skills. As with patients in the BATD group, individuals in the control group were encouraged to discuss problems and psychiatric symptoms with their peers, their psychiatrist, or the unit staff. Each patient in the SP group was randomly yoked with a patient in the BATD group. This strategy was used to ensure that the same number of tokens was distributed across treatment groups. For example, if the BATD patient earned one token on the first day and three on the second, the yoked SP patient would receive the same number on the same days. So for the SP group, tokens were provided in a manner that was noncontingent on the achievement of behavioral (activation)

goals. Patients in the SP group were informed that they “would periodically receive tokens for their involvement in supportive psychotherapy.”

RESULTS

Chi-square analyses revealed no significant differences in gender, marital status, or ethnicity across treatment conditions. Similarly, one-way ANOVAs revealed no significant differences between groups as a function of age, years of education, number of previous admissions, or number of coexistent diagnoses. Outcome data indicated that patients receiving BATD exhibited decreases in their mean BDI score from 35.1 ($SD = 7.4$) at pretreatment to 19.1 ($SD = 13.1$) at posttreatment. Furthermore, this change was significantly greater than the change from 37.1 ($SD = 13.4$) to 30.2 ($SD = 17.0$) observed among patients in the SP condition, $t(23) = 2.16, p < .05$. To evaluate the clinical significance of this finding, we calculated an effect size by subtracting the postassessment (BATD) score from the postassessment (SP) score, then dividing by the pooled standard deviation (d statistic) (Cohen, 1988). An effect size (d) of .2, .5, and .8 is considered small, medium, and large, respectively (Cohen, 1988). Attesting to the magnitude of differential treatment outcome, the effect size for this sample was large ($d = .73$), suggesting that the difference between treatment groups was clinically meaningful, despite the limited sample size.

DISCUSSION

Results from this study support the effectiveness of BATD within an inpatient setting. This finding is provocative in that recent findings suggest the utility of activation procedures for depression in outpatient settings (Jacobson, et al., 1996; Lejuez, Hopko, LePage, et al., 2001) as a potential intervention for coexistent anxiety and depressive symptoms (Hopko, Lejuez, & Hopko, in press) and as an adjunct to pharmacotherapy (Hopko et al., 1999). Given the limited time and training needed to implement this treatment, it appears ideal for inpatient settings in which managed care considerations have reduced the

length of stay, thereby reducing the feasibility of more traditional interventions. Indeed, it is important to note that to date, very few studies have been conducted to evaluate the efficacy of short-term psychotherapy for depressed inpatients (Jarrett, 1995). The earliest of these studies demonstrated no significant differences between cognitive therapy, pharmacotherapy, and social skills treatment at the end of a 3-week hospitalization period (Miller, Norman, Keitner, Bishop, & Dow, 1989). More recently, researchers demonstrated that cognitive therapy in combination with nortriptyline (Bowers, 1990) and cognitive-behavioral therapy alone (Thase, Bowler, & Harden, 1991) might be useful interventions for depressed inpatients. Problematically, these latter two studies involved treatments that were provided over a 1-month period, the practicality of which is questionable in a managed care era. The parsimonious and time-efficient nature of BATD may help to remedy this problem.

Although data from the current study are promising, several limitations remain. First, the SP comparison treatment provided within the hospital, though equated for contact time and actually serving as a standard depression-related intervention at the hospital, is not an empirically validated intervention. Thus, future research will need to examine the utility of BATD as compared with empirically validated psychotherapeutic and pharmacological interventions to more firmly establish BATD as an effective and potentially preferred treatment intervention. Second, future studies should include a more comprehensive assessment battery. A structured clinical interview, for example, would be useful to improve the validity of patient diagnoses, with second assessments conducted by independent evaluators to improve reliability. Equally as important, treatment outcome measures should be expanded to include clinical, functional, and satisfaction instruments (e.g., anxiety measures, quality of life, treatment satisfaction). Third, incorporating measures of provider treatment adherence and competency and patient compliance will be critical in evaluating the internal validity of the treatment and associated outcome findings. Finally, though the treatment effect size was substantial, a more extensive patient sample will be necessary to replicate findings and assess generalizability as a function of various clinical and demographic variables. One such area of exploration should involve examining the

efficacy of BATD as a function of gender. In this study, 64% of patients were men. Although the literature indicates that depressed male and female patients may respond comparably to behavioral treatment (Sotsky et al., 1991; Wilson, 1982), gender as a predictor of treatment outcome is largely understudied (Lewinsohn & Gotlib, 1995). Despite these limitations, preliminary findings support the efficacy of BATD for depression in inpatient mental health settings. Future programmatic research that extends these results and evaluates the clinical significance of BATD will help to establish if the intervention is an efficacious, cost-effective, and easily administered inpatient treatment for depression.

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