Acceptance and Commitment Therapy for Psychiatric Inpatients with Psychotic Symptoms

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TABLE OF CONTENTS

LIST OF TABLES……………………………………………………………………….vii

LIST OF FIGURES……………………………………………………………………..viii

ABSTRACT…………………………………………………………………………...ix

1. INTRODUCTION……………………………………………………………........1

   1.1. Cognitive Behavior Therapy for Psychotic Disorders……………………………1

   1.2. Treatment of Outpatients………………………………………………………3

      1.2.1. Clinical Trials with Outpatients…………………………………………...3

      1.2.2. Summary and Conclusions………………………………………………..4

   1.3. Treatment of Acute Psychotic Episodes……………………………………………5

      1.3.1. Clinical Trials with Inpatients……………………………………………..6

      1.3.2. Summary and Conclusions………………………………………………..7

   1.4. Effectiveness Research……………………………………………………...8

      1.4.1. Effectiveness Trials………………………………………………………..8

      1.4.2. Summary and Conclusions………………………………………………..9

   1.5. Meta-analytic Conclusions……………………………………………………9

   1.6. Mindfulness/Acceptance-Based Approaches for Psychotic Disorders…………11

      1.6.1. Acceptance and Commitment Therapy…………………………………..12

      1.6.2. ACT for Psychosis……………………………………………………13

      1.6.3. Summary and Conclusions……………………………………………15

   1.7. Preliminary Research…………………………………………………………16

   1.8. Summary and Study Rationale…………………………………………………18

2. METHODS…………………………………………………………………………..21

2.1. Participants…………………………………………………………………...21

2.2. Measures……………………………………………………………………...22

  2.2.1. Brief Psychiatric Rating Scale (BPRS)……………………………..22

  2.2.2. Clinical Global Impressions Scales (CGI)……………………………….23

  2.2.3. Self-Ratings of Psychotic Symptoms……………………………………23

  2.2.4. Sheehan Disability Scale (SDS)…………………………………………24

  2.2.5. Rehospitalization Data……………………………………………...24

2.3. Treatments………………………………………………………………….....24

  2.3.1. Enhanced Treatment as Usual (ETAU)………………………………….24

  2.3.2. Acceptance and Commitment Therapy (ACT)…………………………..25

2.4. Procedure……………………………………………………………………..26

2.5. Reliability/Fidelity Checks…………………………………………………...27

2.6. Statistical Analyses…………………………………………………………...28

  2.6.1. Statistical Power…………………………………………………………28

  2.6.2. Preliminary Analyses…………………………………………………….28

  2.6.3. Primary Analyses……………………………………………………...29

  2.6.4. Secondary Analyses…………………………………………………...29

2.7. Design and Data Collection Considerations……………………………………30

3. RESULTS……………………………………………………………………....32

3.1. Sample Description…………………………………………………………...32

3.2. Preliminary Analyses…………………………………………………………33

  3.2.1. Demographic Characteristics……………………………………………33

  3.2.2. Pre-treatment Scores……………………………………………………..33

3.2.3. Gender Differences……………………………………………………34

3.2.4. Other Analyses……………………………………………………...35

3.3. Primary Analyses……………………………………………………..35

3.3.1. Clinician-Rated Measures……………………………………..35

3.3.2. Self-Report Measures…………………………………………36

3.3.3. Objective Measures……………………………………………37

3.4. Secondary Analyses…………………………………………………..37

3.4.1. Intention-to-Treat Analyses (ITT)……………………………37

3.4.2. Clinical Significance…………………………………………..37

3.4.3. Regression Analyses…………………………………………..38

4. DISCUSSION……………………………………………………………..40

4.1. Summary of Results…………………………………………………..40

4.2. Support for Hypotheses………………………………………………40

4.2.1. Hypothesis #1…………………………………………………40

4.2.2. Hypothesis #2…………………………………………………43

4.2.3. Hypothesis #3…………………………………………………44

4.3. Comparison and Contrast to Bach and Hayes (2002)…………………...45

4.4. Limitations……………………………………………………………48

4.5. Implications and Future Directions…………………………………..48

LIST OF REFERENCES…………………………………………………...56

APPENDIX A: SELF REPORT RATINGS OF PSYCHOTIC SYMPOTMS……..…80

APPENDIX B: THE TREATMENT OF PSYCHOTIC DISORDERS WITH ACCEPTANCE AND COMMITMENT THERAPY IN AN INPATIENT SETTING……………………………………………………………………...81

VITA……………………………………………………………………………..92

LIST OF TABLES

1. CBT for Psychotic Disorders Pilot Study: Means (Standard Deviations) and Significant Differences for Self Report Measures……………………………….………..66
2. Assessment Schedule for Current Study…………………………………….……….67
3. Demographic Characteristics of the Sample……………………………………....68
4. Means (Standard Deviations) of Pre- and Post-Treatment Measures for Completers Only and Intention to Treat Analyses……………………………………………..70
5. Effect Size Changes (Cohen's *d*) on the BPRS Total and Thinking Disturbance Subscale Over Time and Between Groups for Completers Only…………………....72
6. Hierarchical Multiple Regression Analysis Predicting Change in Distress about Hallucinations Entering Change in Frequency of Hallucinations First and Change in Believability of Hallucinations Second in the ACT Group………………………73
7. Comparison of the Current Study and Bach and Hayes (2002)……………………...74

LIST OF FIGURES

1. Participant Flow Diagram for Study Phases……………………………………………75

2. Group Differences on the Brief Psychiatric Rating Scale Affect Subscale…………76

3. Group Differences on Self-Reported Distress about Hallucinations………………...77

4. Group Differences on the Sheehan Disability Scale Social Subscale………………..78

5. Clinically Significant Change on the Brief Psychiatric Rating Scale Total Score and Thinking Disturbance Subscale at Post-Treatment……………………………...79

ABSTRACT

Acceptance and Commitment Therapy for Psychiatric Inpatients
with Psychotic Symptoms
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Cognitive behavior therapy has been demonstrated in a number of randomized controlled trials to be efficacious for the treatment of psychosis. Emerging evidence suggests the usefulness of related mindfulness/acceptance-based approaches for this population. The current study was designed to replicate and extend previous findings by Bach and Hayes (2002). Psychiatric inpatients with psychotic symptoms were randomly assigned to enhanced treatment as usual or enhanced treatment as usual plus individual sessions of Acceptance and Commitment Therapy (ACT). Results revealed greater improvements in the ACT group at post-treatment on clinician-rated affective symptoms and global improvement, and self-rated distress associated with hallucinations and impairment in social functioning. Overall large effect size improvements were demonstrated in both groups pre- to post-treatment, with medium effect sizes differences between groups favoring the ACT condition. In addition, significantly more participants in the ACT condition reached clinically significant improvements in overall symptoms at post-treatment. At 4-month follow-up, 45% of participants in the ETAU only group had been rehospitalized compared to only 28% of those in the ACT group. Results suggested that believability in hallucinations mediated the relationship between symptom frequency and distress. Improvement in believability of hallucinations over time was only observed in the ACT condition, and change in believability predicted change in associated distress after controlling for change in frequency of hallucinations. Results are viewed as largely

consistent with the findings of Bach and Hayes and warrant future investigations with larger samples. Future research should continue to investigate possible mechanisms of action in effective psychosocial treatments for psychosis.

1. INTRODUCTION

Even with advances in pharmacological treatments, schizophrenia and other psychotic disorders are typically chronic and debilitating conditions (Pratt & Mueser, 2002). Many patients continue to experience residual symptoms and related problems associated to these disorders even when treatment compliance is not an issue. Research suggests that between 25 and 60 percent of patients who adhere to drug treatment continue to experience psychotic symptoms (Curson, Patel, Liddle, & Barnes, 1988). Furthermore, 25 to 40 percent of individuals who experience psychosis often exhibit comorbid mood and anxiety symptoms (Johnstone, Owens, Frith, & Leavy, 1991). The experience of positive symptoms is one of the best predictors of rehospitalization (Tarrier, Barrowclough, & Bamrah, 1991). Therefore, the development of efficacious and effective adjunctive psychosocial treatments is imperative for treating psychotic patients. The proposed study attempted to evaluate the impact of using a newer psychosocial intervention to treat the symptoms associated with psychotic disorders.

1.1. Cognitive Behavior Therapy for Psychotic Disorders

Over the past decade, cognitive behavior therapy (CBT) has been found in a number of randomized clinical trials to be efficacious for the treatment of schizophrenia and related psychotic disorders (Beck & Rector, 2000). Originally developed for the treatment of depression and anxiety in the 1960s and 70s primarily by Beck and colleagues (1979) and Ellis (1962), CBT focuses on the modification of dysfunctional beliefs to promote affective and behavior change. In the intervening years, CBT has been adapted successfully for a diverse array of psychiatric conditions, including substance abuse, bulimia nervosa, personality disorders, and disorders of childhood/adolescence

(Salkovskis, 1996). However, only recently has substantial attention been directed toward adapting CBT for patients with psychotic disorders. Perhaps this is because the prevailing wisdom in the mental health field traditionally has been that patients who experience delusions and hallucinations are not amenable to “talk therapy” (Jaspers, 1963). Furthermore, early studies of traditional psychotherapy (i.e., psychoanalytic approaches) with these patients generally reported negative outcomes (McGlashan, 1994).

In contrast to traditional psychodynamic therapies, newer psychosocial approaches with empirical support are structured, symptom-focused, and goal-oriented. Although no one specific CBT protocol has been used predominantly with this population, most studies have employed a treatment package that includes several core elements. Kingdon and Turkington (1994) describe a comprehensive CBT approach for treating psychosis that provides a representative example. First, a rationale for treatment is provided through patient education about psychotic symptoms and diagnoses. Next, the antecedents of psychotic episodes are identified and the interaction between thoughts and behaviors is highlighted. Typically, comorbid mood and anxiety problems are treated first through standard cognitive-behavioral techniques (i.e., cognitive restructuring and behavioral activation or exposure). Once a strong rapport has been built, patients are taught “reality testing” skills for dealing with positive symptoms such as delusions and hallucinations. For example, after irrational thoughts about hallucinations are delineated, behavioral experiments are conducted to examine the validity of the belief. Later sessions focus on cognitive-behavioral techniques for tackling negative symptoms (e.g., social skills training) and preventing relapse after discharge.

1.2. Treatment of Outpatients

Cognitive and behavioral techniques for treating delusions (e.g., Watts, Powell, & Austin, 1973) and hallucinations (e.g., Haddock, Slade, Bentall, Reid, & Farager, 1988) have been reported in the literature for decades, mostly in the form of case studies or uncontrolled trials. Over fifty years ago, Beck (1952) reported on the successful cognitive treatment of a patient with treatment-resistant delusions. Based on this early success, Hole, Rush, & Beck (1979) treated eight delusional patients with cognitive therapy and reported positive results. Unfortunately, these early reports were devoid of experimental controls and thus provided little support for the systematic use of CBT with this population.

1.2.1. Clinical trials with outpatients. Tarrier and colleagues (1993) conducted one of the first methodologically rigorous clinical trials of CBT to treat the psychotic symptoms associated with schizophrenia. All patients were stable on neuroleptic medications but still experiencing psychotic symptoms at the time of the study. Participants were randomly assigned to either a cognitive-behavioral treatment that taught active coping techniques for dealing with psychotic symptoms or a comparison condition that trained patients in general problem-solving skills. Both treatments were compared to a wait-list control condition. Results indicated that both active treatments were associated with improvement in psychotic symptoms compared to the wait-list condition at post-treatment, with patients maintaining gains at 6-month follow-up. Although some evidence showed that the active coping treatment was superior to the general problem-solving condition, results were largely equivocal. A major drawback of the study was that assessors were not blind to group allocation.

Two more recent randomized controlled trials further point to the efficacy of CBT for psychotic symptoms. Tarrier et al. (1998) randomly allocated participants with chronic schizophrenia to CBT and routine care (CBT-RC), supportive counseling and routine care (SC-RC), or routine care only (RC). Assessors were blind to treatment condition and standardized symptom measures were used. At post-treatment, a significant improvement in positive symptoms was demonstrated for those receiving CBT-RC, but not SC-RC or RC; CBT-RC was significantly better than RC. At 3-month follow-up, those receiving RC showed greater relapse rates compared to those in the other two conditions. At 12-month follow-up, CBT showed similar superiority to RC and some benefits over SC-RC (Tarrier, et al., 1999). At 2-year follow-up, there were no differences between SC and CBT, although both were superior to RC alone (Tarrier et al., 2000).

In an effort to better control for nonspecific effects, Sensky et al. (2000) conducted a randomized controlled trial comparing CBT with a specially-designed nonspecific “befriending” comparison treatment. Assessors were blind to treatment condition, and results revealed that both interventions resulted in significant reductions in positive and negative symptoms at post-treatment with no group differences. However, at 9-month follow-up, those who received CBT demonstrated sustained improvement, whereas those in the comparison condition did not.

1.2.2. Summary and conclusions. Several other controlled trials have reported similar positive results using CBT to treat psychotic disorders in outpatients (e.g., Durham et al., 2003; Garety, Kuipers, Fowler, Chamberlain, & Dunn, 1994; Kuipers et al., 1997; Pinto, La Pia, Mennella, Giorgio, & DeSimone, 1999; Rector, Seeman, & Zegal, 2003; Turkington, Kingdon, & Turner, 2002). Over recent years, numerous qualitative reviews of the literature on CBT for psychosis have been written (e.g., Beck & Rector, 2000; Bouchard, Vallieres, Roy, & Maziade, 1996; Gaudiano, in press; Henriques & Beck, 2000; Mueser, Bond, & Drake, 2001). Furthermore, other authors have written about CBT case formulation and treatment implementation specifically for psychotic disorders (e.g., Haddock & Tarrier, 1998; Kingdon, 1998; Kingdon & Turkington, 1994; Levine, Barak, & Caspi, 1995; Rector & Beck, 2002). The adaptation and implementation of CBT to treat the residual symptoms or as management treatment for outpatients with psychotic disorders is amassing a considerable amount of empirical support. Nevertheless, numerous lingering empirical questions remain. For example, the methodological rigor of previous studies varies considerably, and none have compared CBT to another empirically supported treatment for schizophrenia or related disorders (e.g., family therapy). Furthermore, CBT protocols include multiple cognitive and behavioral interventions that often differ between studies, hampering comparisons of trials.

1.3. Treatment of Acute Psychotic Episodes

Effective psychosocial treatments may be especially important to implement in the acute phase of psychosis. For example, Shepherd, Watt, Falloon, & Nigel (1989) conducted a 5-year follow-up of schizophrenic patients, and found that for a third of the sample, increased impairment in functioning and residual symptoms occurred after each acute psychotic episode. Therefore, it is important to identify treatments that could shorten the length of acute psychosis and also lengthen the time between episodes. Unfortunately, there is a paucity of research on effective psychosocial treatments for psychotic inpatients in the acute phase of their illness.

1.3.1. Clinical trials with inpatients. Most of the previous research reviewed on CBT for psychosis used outpatient samples. Bazzoni, Morosini, Polidori, Rosicarelli, and Fowler (2001; see description below) conducted an uncontrolled study that supported the effectiveness of CBT for psychosis in an inpatient sample. However, only two known controlled trials have been conducted examining CBT exclusively for inpatients. In an early trial, Milton, Patwa, and Hafner (1978) randomly assigned inpatients with delusions to 5 weeks of either a confrontation (i.e., direct confrontation of the patient's delusional beliefs) or a belief modification (i.e., gentle questioning and seeking alternative interpretations for beliefs) group treatment. They found a significant decrease in the strength of delusional beliefs from pre-treatment to 6-week follow-up in the belief modification but not the confrontation condition.

In a more rigorous examination, Dury and colleagues (1996a) randomly assigned 40 inpatients to either individual and group CBT plus routine care or supportive therapy plus routine care for 12 weeks. Both groups showed improvement throughout treatment, although patients receiving CBT showed superior change on an index of positive symptoms and delusional conviction compared to those receiving supportive therapy. Furthermore, the differences between conditions were observable by 6 weeks of treatment. These results were maintained at 6-month follow-up, with those receiving CBT showing a faster time to recovery compared to those receiving supportive therapy (Dury, et al. 1996b). Dury, Birchwood, and Cochrane (2000) reported on a 5-year follow up of the sample. Overall, they found that the two groups were comparable in terms of outcome; however, when results were examined on a subsample of patients who relapsed a maximum of one time, observer-rated hallucinations and delusions were significantly lower in the CBT compared to the recreational therapy group. Results are limited because assessors were not blind to treatment condition.

In an attempt to decrease subsequent psychotic episodes in those recently diagnosed, Lewis et al. (2002) randomly assigned 315 inpatients during their first or second hospital admission to CBT plus routine care, supportive counseling plus routine care, or routine care alone. Those in the CBT condition received 5 weeks of intensive therapy (15-20 hours) and booster sessions over the following 3 months, which began during the inpatient stay and continued after discharge. Those in the CBT condition showed a faster rate of improvement. However, CBT produced only early, transient benefits over the other conditions that were lost at later time points. At 18-month follow-up, no differences were observed between CBT and supportive counseling (Tarrier et al., 2004).

1.3.2. Summary and conclusions. The results of the studies by Bazzoni et al. (2001), Lewis et al. (2002), Milton et al. (1978), and Dury and colleagues (1996a, 1996b, 2000) suggest that CBT delivered to inpatients can provide significant improvements over other treatments. Due to the relative paucity of studies with inpatient samples, the proposed study will be conducted on an inpatient unit with individuals who are hospitalized for an acute psychotic episode. A promising new psychosocial treatment will be investigated that—as compared to previous studies—is especially feasible to deliver in an inpatient setting. Previous trials, including those of Tarrier et al. (1998) and

Sensky et al. (2000), used more intensive, long-term formats, which may be difficult to implement in practice. The current study will use a relatively brief treatment format.

1.4. Effectiveness Research

The studies discussed above primarily were efficacy trials that examined the benefit of CBT for psychosis under controlled conditions in order to draw causal inferences. They usually included random assignment to conditions, adherence to strict treatment protocols, and stringent inclusion/exclusion criteria. However, the growing consensus in the field of outcome research is that efficacy studies should attempt to more specifically address the problems faced by practicing clinicians (Seligman, 1995). Therefore, effectiveness research generally uses naturalistic or observational designs for assessing treatment outcome in typical clinical settings with a wider range of patients.

1.4.1. Effectiveness trials. Bazzoni et al. (2001) tested the effectiveness of CBT for schizophrenia. These researchers used a group CBT approach with inpatients hospitalized for acute psychosis in Italy. They compared hospital records on indices such as rehospitalization rates, use of physical restraints, and escape behavior on the unit before and after providing the CBT intervention to 385 patients. They reported that rehospitalization rates decreased by a third, violent episodes declined by almost half, and patient escape attempts nearly disappeared after CBT treatment. Furthermore, patients expressed high satisfaction with the CBT group. Unfortunately, because no experimental controls were employed, it is impossible to conclude with certainty that the improvements observed were specifically attributable to the CBT intervention. However, results do demonstrate that CBT can be successfully integrated into inpatient treatment.

Furthermore, Wiersma and colleagues (2001) reported that 60% of 40 patients with treatment refractory auditory hallucinations showed significant improvements in symptoms over 4-years of a naturalistic treatment study. Jakes, Rhodes, and Turner (1999) found that one-third of 18 patients with chronic delusions responded to cognitive therapy in terms of positive changes in believability of delusions, although all patients maintained some degree of belief in delusions at post-treatment.

1.4.2. Summary and conclusions. Researchers have recommended that future trials more closely determine the effectiveness—or real-world benefit—of the treatment. Although Bazzoni et al. (1995) investigated the effectiveness of delivering CBT for psychosis, the lack of experimental controls in the study precluded definitive conclusions. Clarke (1995) argued for the development and use of alternative methodologies that keep experimental controls while also addressing effectiveness concerns. Therefore, the proposed study will seek to incorporate important aspects of effectiveness trials, while retaining the necessary elements of efficacy research (e.g., random assignment and manualized treatment). Previous trials, including those of Tarrier et al. (1998) and Sensky et al. (2000), used more intensive, long-term individual formats, which may be difficult to implement in practice. The current study will use a relatively brief treatment that can be more easily implemented in psychiatric treatment settings. Therefore, the current study will incorporate several elements of efficacy and effectiveness trials that have never been achieved in other studies in this area.

1.5. Meta-Analytic Conclusions

To date, four meta-analytic reviews have examined the efficacy of CBT for schizophrenia. An early Cochrane Review (Jones, Cormac, Mota, & Campbell, 1998) based on four small trials concluded that the treatment may be effective in reducing relapse rates but questioned its superiority to other treatments. These reviewers argued for the development of CBT protocols that could be implemented by less experienced therapists. More recently, Rector and Beck (2001) conducted a meta-analysis of seven randomized-controlled trials and computed effect size estimates based on comparisons of CBT to a control condition. They found large effects for CBT on positive and negative symptom measures and additional benefits for CBT over routine care and supportive psychotherapy. Large effect size gains were identified once again for CBT on psychotic symptom measures in a meta-analysis conducted by Gould, Mueser, Bolton, Mays, & Goff (2001). Furthermore, follow-up analyses suggested that patients receiving CBT continued to improve post-treatment. Most recently, Pilling and colleagues (2002) conducted a meta-analysis on a total of 14 CBT trials, and concluded that CBT interventions produced clinically significant reductions in symptoms and improvements on continuous measures through follow-up.

The present study will seek to extend the findings of previous research in this area by investigating the efficacy of a relatively novel form of CBT for psychotic disorders that incorporates elements of mindfulness and acceptance (explained below). Both Beck and Rector (2001) and Gould et al. (2001) recommended that future research examine more closely the benefit of CBT in decreasing rehospitalization rates. The present study will examine rehospitalization rates at 4-month follow-up to determine if CBT added to routine care results in decreased relapse rates compared to routine care alone. As recommended by Gould et al., the sample in the current study will include many participants who are of minority status and who possess comorbid psychiatric and medical conditions. The inclusion of participants with diverse demographic characteristics helps to ensure external validity or generalizability of results to typical settings.

1.6. Mindfulness/Acceptance-Based Approaches for Psychotic Disorders

CBT traditionally focuses on the active disputation and modification of dysfunctional beliefs to decrease their frequency, intensity, and believability. Newer cognitive-behavioral approaches have explored the addition of mindfulness/acceptance techniques that target symptoms without directly seeking to change their content. Some have described mindfulness/acceptance approaches as the "third wave" of behavior therapy, with the first wave denoting traditional behavior therapy, and the second representing cognitive therapy (Hayes, in press). Such techniques have been adapted for treating a variety of difficult problems: Borderline Personality Disorder (Linehan, Armstrong, Suarez, & Allmon, 1991; Linehan, Heard, & Armstrong, 1994), couples discord (Jacobson, Christensen, Prince, Cordova, & Eldridge, 2000), Generalized Anxiety Disorder (Roemer & Orsillo, 2002), pain tolerance (Rosenfarb, Cooper, & Grundy, 1999), relapse prevention in Major Depression Disorder (Teasdale, et al., 2000), substance abuse (Marlatt, 2002), and trauma (Follette, 1994). Although definitions of mindfulness vary widely, put simply the term means "paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally" (Kabat-Zinn, 1994, p. 3). The aim of mindfulness/acceptance strategies is to help individuals "de-fuse" from internal sources of distress (e.g., negative thoughts or emotions), not though continued avoidance or disputation of these disturbing feelings, but through an adopted stance of acceptance and mindfulness.

Although the inclusion of mindfulness/acceptance techniques may appear inconsistent with CBT, emerging evidence suggests that the development of a mindfulness stance may in fact mediate treatment response in traditional CBT. Teasdale and colleagues (2002) examined the metacognitive awareness (i.e., the degree to which individuals experience negative thoughts/feelings as mental events rather than as the self) of treatment responders to traditional cognitive therapy and to mindfulness-based cognitive therapy for depression. They found that increased metacognitive awareness predicated reduced relapse rates in both treatment approaches. A recent study by Sheppard and Teasdale (2004) showed that metacognitive awareness mediated the relationship between dysfunctional thinking and remission to Major Depression in contrast to decreased access to dysfunctional schemas.

1.6.1. Acceptance and Commitment Therapy. To date, the most comprehensively formulated mindfulness/acceptance-based cognitive behavior therapy is Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999). Blackledge and Hayes (2001) summarize the approach as follows: "Stated simply, the ACT model of psychopathology holds that a great deal of our difficulties comes from fusion with cognitions (i.e., believing that a thought that interprets experience is actually true) and resultant experiential avoidance that disrupts or impedes movement toward valued goals" (p. 246). In contrast to avoiding or struggling with negative thoughts and emotions, ACT is designed to help individuals accept and experience symptoms nonjudgmentally, while simultaneously working toward the pursuit of valued behavioral goals. This stance is achieved primarily through the use of experiential exercises (e.g., meditation) and didactic metaphors, and is presented in the context of values clarification, goal setting, and overt behavior change strategies. Patients are taught to abandon control-oriented strategies aimed at controlling unpleasant private experiences, and instead to accept the presence of distressing symptoms while learning to notice nonjudgmentally the occurrence of thoughts, feelings, and sensations without assuming that they are literally "true." Acceptance does not imply "giving in" to symptoms, but instead recognizes that thoughts are products of mental events rather than the self.

Preliminary evidence suggests that ACT produces improvements that are at least as robust as those observed with disputation-based CBT in a variety of populations (see Hayes et al., 2004, for a review). For example, Block (2002) found that those receiving both ACT and traditional group CBT significantly improved their public speaking anxiety. Bond and Bunce (2000) found that both treatments were effective in reducing worker stress and anxiety. However, results of both studies suggested that those receiving ACT showed greater acceptance of negative emotions compared to those receiving traditional CBT. Furthermore, an effectiveness trial of ACT demonstrated its broad clinical usefulness in clinical practice (Strosahl, Hayes, Bergan, & Romano, 1998). Therapists were provided brief training in ACT and outcomes in a heterogeneous clinical sample were compared with those of therapists who did not receive the training. Clients with ACT-trained therapists reported better coping and were more likely to have completed treatment compared to those of therapists not trained in ACT.

1.6.2. ACT for psychosis. Emerging evidence suggests the usefulness of mindfulness-based CBT for treating psychotic symptoms. The philosophy underlying these treatments has even appeared in the popular media recently in the 2002 Academy-Award winning film, *A Beautiful Mind* (Stone, 2002). The film is based on the biography of Nobel-prize winning mathematician John Nash, who uses aspects of mindfulness and acceptance to cope with his life-long struggle with schizophrenia (Nasar, 1998).

In the professional literature, Garcia and Perez (2001) presented a case study describing the successful treatment of a patient with auditory hallucinations using ACT. However, Bach and Hayes (2002) conducted the first controlled trial using a mindfulness-based CBT for treating the psychotic symptoms associated with schizophrenia and related disorders. Eighty patients were randomly assigned to TAU or TAU plus 4 individual sessions of ACT during inpatient and outpatient care. Patients were taught to accept unavoidable events, to notice psychotic symptoms without treating them as either true or false, and to identify and work toward valued goals despite their symptoms. Patients supplied simple Likert-scale ratings of the frequency, distress, and believability associated with their hallucinations and delusions pre-treatment and at follow-up, which included rehospitalization data. Those receiving ACT demonstrated significantly higher reporting of, but lower believability in symptoms compared to the TAU only group. The rehospitalization rate in the ACT group was only half that of the TAU only group at follow-up.

Results of the Bach and Hayes (2002) study are promising, and some suggest that mindfulness-based CBT may have specific advantages over disputation-based CBT (Teasdale et al., 2002). Researchers have warned that when using CBT with patients experiencing psychosis, it is important first to build a strong therapeutic alliance, and then to keep disputation to a minimum when engaging in cognitive restructuring (i.e., identifying and modifying distortions in thinking) (Kingdon & Turkington, 1994). Providing some empirical support for this suggestion, Milton et al. (1978) found that the use of direct disputation techniques resulted in poor treatment outcome. However with mindfulness-based CBT, the emphasis is not on disputing the literal truth of specific delusions or hallucinations, which can inadvertently result in alienating patients from treatment. Instead, patients practice experiential exercises to help them experience their thoughts as the products of mental events and not the self, thereby loosening the association between internal feelings and external experience. Patients often experience high levels of anxiety and depression related to psychotic symptoms (Harkavy-Friedman, Nelson, Venarde, Mann, 2004). Although many patients experience distress associated with the psychotic symptoms themselves (e.g., hearing a disparaging voice), others may experience distress associated with the consequences of their psychotic symptoms (e.g., involuntary commitment due to safety concerns stemming from delusional thinking), depending on their level of insight. ACT addresses both of these potential concerns, as the focus is not on the veracity of thoughts/symptoms, but the workability (or unworkability) of behaviors that result from buying into symptoms. Therefore, patients are taught how to accomplish the goals that they set for themselves without getting side-tracked by the struggle to eliminate psychotic symptoms.

1.6.3. Summary and conclusions. Results of the Bach and Hayes (2002) study suggest that brief acceptance/mindfulness-based CBT can provide important benefits to inpatients. The proposed study will attempt to replicate and extend these findings. For example, the previous study used simple, non-standardized assessments of psychotic symptoms. The current study will use established and psychometrically sound symptom measures (e.g., Brief Psychiatric Rating Scale; Lukoff, Nuechterlein, & Ventura, 1986), along with self-report indices similar to those used by Bach and Hayes. The current study will use established and psychometrically sound symptom measures (e.g., The Brief Psychiatric Rating Scale; Lukoff, Nuechterlein, & Ventura, 1986), along with self-report indices similar to those used by Hayes and Bach. Furthermore, treatment will be provided to a more ethnically and demographically diverse sample compared to the Bach and Hayes study. Additional treatment was a possible confound in the Bach and Hayes study, as patients were receiving ACT sessions beyond TAU. In order to lessen the effect of this factor, patients will receive individual ACT sessions in place of one of the other TAU psychosocial elements of their treatment (i.e., routine group or individual therapy provided on the unit). Finally, psychiatric inpatient length of stay in the current environment of managed-care is typically very brief. In order to investigate real-world effectiveness, treatment was delivered in up to 5 sessions as appropriate based on length of stay on the unit. As it often is difficult or impossible to provide continuity of care from inpatient to outpatient settings, treatment will be provided only for the duration of hospitalization, in contrast to the outpatient treatment provided by Bach and Hayes.

1.7. Preliminary Research

The author and colleagues conducted a small pilot project assessing the effectiveness and feasibility of short-term cognitive-behavioral treatment for psychosis (Gaudiano, Osman, Boylan, & Herbert, 2001). Participants were six adults diagnosed with psychotic disorders who were receiving standard partial hospitalization treatment, which included psychotropic medication and psychoeducational group and individual therapy at a community mental health center. CBT was delivered by the first author and another clinical psychology doctoral student using a modified treatment protocol by Granholm, McQuaid, and McClure (2000). The treatment consisted of a total of 12 weekly group sessions, and included education about psychotic symptoms and training in cognitive restructuring, social skills, and problem solving. Acceptance of the experience of psychotic symptoms was stressed from a functional perspective. Patients completed an average of 6 sessions and one patient dropped out of treatment at the program because of insurance reimbursement problems. Several validated self-report measures were administered pre- and post-treatment (see Table 1).

Analyses using non-parametric tests revealed that patients reported significant reductions in impairment following treatment and a marginally significant decrease in depressed mood. A modified version of the Automatic Thoughts Questionnaire (Hollon & Kendall, 1980) was used that assessed both the frequency and believability of irrational beliefs. Interestingly, results indicated that the believability but not the frequency of negative cognitions decreased after treatment. In other words, whereas the frequency and believability of negative cognitions were nearly equivalent at pre-test, a significant reduction in the believability but not the frequency of these thoughts was found at post-treatment. One possible interpretation is that although participants were still experiencing negative cognitions, they believed less in the validity of these thoughts after treatment, similar to the findings of Bach and Hayes (2002). Furthermore, patients reported positive reactions and high satisfaction with the treatment. Although the amount of actual treatment time was minimal in most cases, other therapists from the program reported that patients would discuss and use the techniques and concepts from the CBT group in other groups. The investigation had several limitations that precluded definitive conclusions about the effectiveness of CBT for psychotic patients, including small sample size, lack of independent measures of improvement, and lack of a comparison group. However, the data suggested that CBT could be efficiently delivered for a limited duration as an adjunctive treatment for serious mental illness using less experienced therapists.

1.8. Summary and Study Rationale

Although the development of the newer atypical neuroleptics has produced revolutionary advancements in the treatment of psychotic disorders, many patients continue to experience both positive and negative symptoms even when medication compliance is not an issue. Therefore, psychosocial treatments with substantiated efficacy and effectiveness that can be used in conjunction with pharmacotherapy are greatly needed. Studies have demonstrated that cognitive behavior therapy (CBT) can be successfully adapted for treating psychotic disorders, including schizophrenia (Beck & Rector, 2000). Furthermore, recent data suggest that CBT may prove more efficacious than supportive psychotherapy for schizophrenia (Tarrier, et al., 1998; Sensky et al., 2000). Acceptance and Commitment Therapy, a newer CBT approach that emphasizes mindfulness and acceptance, shows promise for treating psychosis (Bach & Hayes, 2002), but requires further study and independent replication.

The current study incorporated elements of efficacy and effectiveness trials to examine a mindfulness-based CBT for treating inpatients with psychotic symptoms. First, most trials of CBT for this population have utilized efficacy instead of effectiveness designs, when the latter can better speak to the clinical benefits of a treatment in typical settings. Therefore, the psychosocial treatment in the current study was delivered in a flexible individual format, with treatment length varying as a function of length of stay. Second, rehospitalization rate, which has been rarely assessed in previous research, was examined in the current study. Third, the psychosocial treatment used in the current study was delivered exclusively during hospitalization. Fourth, a cognitive-behavioral treatment emphasizing aspects of mindfulness and acceptance was employed. This type of therapy may be particularly advantageous as a brief treatment for use with patients with psychosis, as it emphasizes coping with chronic and treatment-resistant symptoms. Although preliminary research in this area is promising, there exists a crucial need for more controlled trials to determine the feasibility and effectiveness of treatment for this population.

The specific aims of the project were as follows: 1) to evaluate the additional efficacy of a newer psychosocial treatment in a controlled, longitudinal clinical trial of acute psychosis compared to standard treatment; 2) to measure treatment outcome in a multi-modal fashion, including self-report, clinician ratings, and objective indices (i.e., rehospitalization rates); 3) to examine psychological factors (e.g., believability in psychotic symptoms) as potential predictors of treatment response; and 4) to integrate efficacy and effectiveness design elements to ensure applicability to typical clinical settings.

Therefore, the overall goal of the current study was to determine the efficacy of incorporating a mindfulness-based cognitive behavior therapy compared to treatment as usual for individuals hospitalized with severe mental illness. In order to replicate and extend previous research in this area, patients currently hospitalized with a psychotic disorder were randomly assigned to either enhanced treatment as usual (ETAU) or ETAU that included individual sessions of ACT. To better control for extra-treatment effects, patients in the ETAU only condition received milieu treatment (i.e., group/individual session) in place of individual ACT sessions. ETAU consisted of psychopharmacology and psychoeducational-supportive therapy in group and individual formats. ACT employed patient education, goal setting, and mindfulness/acceptance-based techniques to help patients cope with psychotic symptoms. The study was conducted within a multidisciplinary setting designed to integrate biological and psychosocial treatment of the illness.

Specific hypotheses for the study included: 1) Participants in the ACT condition would demonstrate greater improvements in outcomes compared to those receiving ETAU only. 2) ACT would produce lower relapse rates at 4-month follow-up compared to TAU only. 3) Believability would mediate the relationship between frequency of hallucinations and associated distress; and change in believability would predict change in distress, particularly for the ACT group.

2. METHODS

2.1. Participants

Participants were referred by the supervising psychologist at Hahnemann University Hospital in Philadelphia, which houses a 20-bed inpatient acute psychiatric/medical care unit. Patient stay is an average of 1week on the unit. A total of 42 adults currently hospitalized with a psychiatric illness participated in the study. Participants met *DSM-IV* (APA, 1994) criteria for a psychotic disorder or mood disorder with psychotic symptoms that required hospitalization based on the intake interview conducted by the treating psychiatrist.

The *inclusion* criteria for the study were:

1. Patient hospitalized with current or recent (within past week) psychotic symptoms (hallucinations and/or delusions) and other severe psychopathology (including suicidality);
2. Diagnosis of psychotic disorder or psychotic-spectrum disorder, including Schizophrenia, Schizoaffective Disorder, Schizophreniform Disorder, Delusional Disorder, Brief Psychotic Disorder, Psychotic Disorder NOS, Major Depression with Psychotic Features (Other comorbid Axis I and Axis II disorders permitted), or other severe psychopathology with psychotic features that requires hospitalization, such as Bipolar Disorder;
3. Fluency in English;
4. Ability to provide informed consent;
5. Ability to participant in psychotherapy.

The *exclusion* criteria were:

1. Documented diagnosis of Mental Retardation;
2. Inability to participate due to acute medical condition or florid psychosis;
3. Symptoms due to a general medical condition;
4. Patient stay on the unit known in advance to be less than l week.

Patient diagnoses sometimes change from intake to discharge when additional information becomes known. Therefore, participants were excluded from analyses if new information over the course of their involvement in the study became known that affected their ability to meet inclusion/exclusion criteria.

With some participants, it was unclear whether the "voices" they reported hearing were perceived as being produced by external entities or as strong internally-based negative cognitions. Although controversial, Verdoux and van Os (2002) proposed that psychotic symptoms are best conceptualized as following a continuum of severity rather than as a categorical distinction between normal and abnormal thought processes. Furthermore, the philosophy underlying ACT theorizes that similar processes may account for both milder forms of dysfunctional thinking (e.g., negative automatic thoughts) and active, externally-experienced perceptual abnormalities (e.g., auditory hallucinations). Both ACT and more traditional CBT attempt to normalize psychotic experiences to decrease patient distress. Therefore, the presence of "hallucinations" was more broadly defined in the study to include this broader continuum of abnormal thought process.

2.2. Measures

2.2.1. Brief Psychiatric Rating Scale (BPRS). The BPRS, one of the most widely-used psychiatric rating scales, is an 18-item semi-structured clinical interview used to assess general psychopathology, positive and negative symptoms, as well as disorganization and mood problems (Lukoff, et al., 1986; Overall & Gorham, 1962). The BPRS has been shown to consist of four independent factors, and Thinking Disturbance (positive symptoms), Anergia (negative symptoms), Affect (depression, anxiety, hostility), and Disorganization subscales can be computed (Long & Brekke, 1999; Mueser, Curran, & McHugo, 1997). Furthermore, the BPRS is a valid measure that is sensitive to change in acute inpatient care settings (Varner, Chen, Swann, & Moeller, 2000). Anchor points and descriptors were used in the current study as Gabbard et al. (1987) found that they increased interrater reliability. Furthermore, raters were trained to proficiency based on the manual by Ventura et al. (1993).

2.2.2 Clinical Global Impression Scales (CGI). The CGI (National Institutes of Mental Health, 1985) is a global rating of severity and improvement based on a 7-point Likert scale: 1 = "Normal, not at all ill" to 7 = "Among the most extremely ill patients." The CGI has high interrater reliability and has been used extensively in psychiatric outcome research. Anchor points and descriptors were used to increase reliability of administration. For example, "moderately ill" (4) is defined as "meets full criteria for psychiatric diagnosis." Improvement ratings were made based on comparisons to pre-treatment assessment ratings.

2.2.3. Self-Ratings of Psychotic Symptoms. Psychotic symptoms also were assessed in a manner similar to those developed by Bach and Hayes (2002). Participants were asked to rate the frequency, believability, and distress associated with their hallucinations and/or delusions on a Likert-scale format (see Appendix A). For example, for frequency of hallucinations, participants were asked, "On average, how often have you heard voices in the past month?" 1 = Never; 2 = less than once a week; 3 = about once a week; 4 = several times a week; 5 = daily; 6 = more than once a day; 7 = almost constant.

2.2.4. Sheehan Disability Scale (SDS). The SDS is a self-report measure of impairment due to a psychiatric illness (Leon, Olfson, Portera, Farber, & Sheehan, 1992). Participants rated their impairment from symptoms in family, work, and social domains based on a 10-point Likert scale format. The SDS has high internal consistency and good construct validity. It also has evidence of criterion-related validity for impairment associated with psychiatric disorders (Leon, Shear, Portera, & Klerman, 1992).

2.2.5. Rehospitalization data. Rehospitalization data were collected by contacting the patient's insurance provider at 4-month follow up. It was estimated that 80 to 90 percent of participants would be insured through the same provider, Community Behavioral Health (CBH), which dispenses Medicaid funds for the city of Philadelphia. CBH possesses records of any participant psychiatric hospitalizations in the Philadelphia area since discharge. Data also were obtained from those who were rehospitalized on the Hahnemann unit during the follow-up period.

2.3. Treatments

2.3.1. Enhanced treatment as usual (ETAU). ETAU consisted of psychopharmacology and individual and group psychotherapy on the unit. All patients participating in the study were taking anti-psychotic and/or other psychotropic medication during their inpatient stay. Once patients were stabilized on their medications, they participated in standard milieu therapy on the unit. Supportive and psychoeducational group treatment was conducted by psychologists, social workers, mental health technicians, and psychology interns. Patients also received some individual therapy and case management as appropriate. Patients were referred to appropriate community services upon discharge.

Furthermore, patients' participation in the study required them to undergo a comprehensive assessment of psychiatric symptoms. These results were discussed with the treatment team and used for treatment planning purposes. In order to help control for the confound of extra individual attention in the ETAU+ACT condition, the ACT therapist met with participants in the ETAU condition almost daily to provide additional support and to answer questions. The goal was to establish a rapport with the ETAU only participants and to identify useful clinical information that may be relevant for treatment planning. Care was made not to discuss or suggest coping strategies related to ACT. However, extra therapist contact was provided as needed and not based on a specific protocol, and so the amount of extra contact time varied by participant. ETAU participants were receiving equal amounts of actual therapy contact time compared to ACT participants, as treatment in the groups was done concurrently. In general, this extra contact with the ACT therapist for participants in the ETAU condition was necessarily less than that provided to participants specifically receiving ACT sessions.

2.3.2. Acceptance and Commitment Therapy (ACT). The ACT protocol used in the current study was delivered in an individual format and was based on a modified treatment manual developed by Hayes et al. (1999) and Bach & Hayes (2002). Patients received approximately 3 ACT sessions in lieu of other group/individual sessions as part of ETAU on the unit and according to their length of stay. The ACT protocol was developed so that patients could participant in treatment as their stay dictated.

Specifically, each 1-hour session contained a core set of components that allowed participants to participate in the number of individual sessions appropriate to their length of stay. Each session began with an educational component that addressed psychotic symptoms. Next, goals and valued behaviors were elicited and the role of disturbing thoughts/emotions as barriers to goal attainment was discussed. The ACT model then was presented to provide a rationale for treatment. Various mindfulness and acceptance exercises were practiced to decrease avoidance or struggle with internal experiences. Instead, patients were taught to accept and experience symptoms nonjudgmentally without allowing them to interfere with goal-directed behavior. In this way, patients decreased their tendency to interpret psychotic symptoms as representing reality, similar to in other CBT approaches. Each session ended with a review and suggestions for practice exercises to attempt between sessions. A core set of mindfulness/acceptance exercises were rotated through sessions. See Appendix B for the detailed treatment manual.

2.4. Procedure

Patients in the inpatient unit at Hahnemann University Hospital underwent routine assessment procedures, which included a psychiatric evaluation to determine *DSM* diagnosis. Potential candidates who meet criteria for the study were referred by the supervising psychologist through the routine review of patient records. Patients were approached by the author to determine their interest in the study once stabilized on medication enough to participate in group therapy on the unit and after consultation with their treatment team. If patients agreed to participate, informed consent was obtained and demographic information collected.

Immediately after obtaining consent, participants completed assessment measures and afterward were randomly assigned to ETAU or ETAU+ACT. One therapist conducted all ACT sessions. Clinician ratings were conducted by the therapist or one of two research assistants for both groups. Raters were not blind to treatment allocation. Patients in the ETAU condition received standard treatment on the unit, which included psychoeducational-supportive therapy and pharmacotherapy. Patients in the ETAU+ACT condition received 1 to 5 sessions of individual ACT according to their length of stay. The treatment team was consulted throughout patients' participation in the study. If a patient appeared to develop an adverse reaction to treatment, the plan was to withdraw the individual from the study and provide standard care; also, the treatment team would be notified immediately. No such actions were necessary during the study. Prior to discharge, participants completed the same assessment measures. All patients were discharged to appropriate community services, which included case management and community outpatient care. At 4-month follow-up, rehospitalization data were obtained from patients' insurance providers by phone. See Table 3 for a summary of assessment procedures.

2.5. Reliability/Fidelity Checks

Although initially proposed that ACT sessions would be videotaped or audiotaped to assess treatment fidelity, most patients would not agree to this practice. However, regular supervision and consultation was provided by Dr. James Herbert, an expert in ACT who closely oversaw the project, and Dr. David Kalal, the supervising psychologist on the unit, to ensure protocol fidelity. Furthermore, a random proportion (approximately 5%) of assessments were conducted by one assessor while another assessor observed and recorded independent ratings, which were then compared for reliability. Interrater agreement for clinician ratings (i.e., BPRS, CGI) was high (interclass correlation = .90), suggesting reliable administration of measures. Self-report measures were administered at the same assessment as the clinician ratings. The assessor read self-report questions to patients who were illiterate, and recorded patients' exact response without further query.

2.6. Statistical Analyses

2.6.1. Statistical power. The a priori sample size was determined by examining the hypothesis that ACT would result in superior outcomes compared to ETAU. Both recent meta-analyses conducted comparing CBT for psychosis and a comparison control condition showed large effect size differences (Gould et al., 2001; Rector & Beck, 2001). Using the computer program *G-Power* (Faul & Erdfelder, 1992), power was calculated for analysis of variance with an alpha set at .05 and a large effect size ($f = .45$). A sample size of 21 participants per group (total $n = 42$) was estimated to yield a power of .80, which Cohen (1988) designated as acceptable for behavioral research.

2.6.2. Preliminary analyses. An alpha level of .05 and two-tailed tests were used in the analyses unless otherwise specified. Marginally significant results ($p < .10$) were noted accordingly due to modest sample size. Random assignment to conditions was expected to result in relatively equal groups. However, a series of independent samples t-tests and chi square tests was conducted to determine if participants in the groups differed in symptom severity on pretest measures or on demographic characteristics. If significant differences were found, covariance analyses were employed in subsequent analyses. In addition, those in the ETAU+ACT condition received a variable number of individual sessions. Therefore, a Pearsons correlation were calculated to determine if the number of sessions was associated with outcome.

2.6.3. Primary analyses. Primary analyses were conducted on treatment completers. To test the hypothesis that those receiving ACT would demonstrate improved outcomes compared to those receiving ETAU only, continuous measures were analyzed by means of analysis of variance (ANOVA), with pre-treatment scores used as covariates where appropriate (as recommended by Behar and Borkovec, 2003). Due to small sample size, multivariate tests were not used, as they would likely increase Type II error.

Rehospitalization data were calculated in the following ways: 1) whether or not participants were rehospitalized during the 4-month follow-up period was used as a categorical measure; and 2) the number of days until rehospitalization was used as a continuous measure. Categorical data were analyzed based on a chi square test. Days until rehospitalization was analyzed by computing a Kaplan-Meier survival analysis.

2.6.4. Secondary analyses. Intention-to-treat analyses also were conducted on outcome measures using the last observation carried forward method to examine the entire sample. In addition, analyses were conducted to examine the proportion of patients within each condition who achieved substantial amelioration of symptoms or a clinically significant change (Jacobson & Truax, 1991). Treatment responders were defined as those demonstrating a pre- to post-treatment gain of at least 2 pre-treatment standard deviation units on the BPRS total score or thinking disturbance subscale. Chi square analyses were conducted to examine differential rates of responders in the two conditions. Also, effect sizes based on Cohen's d statistic[1] were computed for the BPRS total score and thinking disturbance subscale.

Finally, regression analyses were conducted to determine if believability in symptoms mediated the relationship between frequency of hallucinations and associated distress. Mediation analyses were conducted based on the recommendations by Baron and Kenny (1986). Furthermore, it was hypothesized that believability in psychotic symptoms would be a predictor of distress, especially for those in the ACT condition. Separate regression analyses were conducted by group to determine if pre-post changes in believability predicted change in distress beyond change in frequency alone.

2.7. Design and Data Collection Considerations

An effort was made in the current study to construct the simplest and most straightforward design that could adequately examine the hypotheses. However, several possible experimental difficulties were identified and alternative approaches considered. On an inpatient unit, patients often are discharged with little notice, and therefore it was difficult to obtain complete post-treatment data on all participants. If a patient was unable to complete the full assessment procedures prior to discharge, assessors attempted to obtain as much outcome data from the person as possible. In addition, it was difficult to obtain follow-up data on all patients as many were homeless and did not have permanent contact information. Therefore, different methods of obtaining rehospitalization data were considered. For example, although it is preferable to obtain rehospitalization data through patient records, attempts were made to contact participants if this information could not be obtained from insurance providers. Furthermore, upon consent, patients were asked to provide alternative persons who can be contacted if there was a problem contacting the patient at follow-up.

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[1] Cohen's (1988) d statistic: (M1-M2)/(SD pooled), where SD pooled = $[\sqrt{(SDpre^2 + SDpost^2)/2}]$.

Many individuals with serious mental illness are already receiving a variety of treatments, including medication and case management. Therefore, alternative strategies for identifying and implementing evidence-based treatments for serious mental illness compared to other common psychiatric conditions (e.g., mood or anxiety disorders) are warranted (Mueser, Torrey, Lynde, Singer, & Drake, 2003). Bach and Hayes (2002) compared TAU versus TAU plus additional treatment. The current study employed a design comparing ACT versus other psychoeducational-supportive treatment provided as part of TAU. ACT sessions were given in place of another group or individual session provided as TAU on the unit. This design helped to limit the potential confound of additional treatment. However, it should be noted that the primary delivery format for TAU consisted mainly of group sessions. It originally was proposed that ACT be delivered in a group format; however, due to high turnover rate and limited resources, such a format was not feasible in the study so ACT was delivered in individual sessions.

3. RESULTS

3.1. Sample Description

Figure 1 depicts a diagram showing participant flow throughout study phases. A total of 60 participants were approached for inclusion in the study based on pre-screening procedures. Fifteen patients refused entry into the study after it was described. Three participants did not meet inclusion/exclusion criteria for the study: two were floridly psychotic and one did not meet diagnostic criteria upon further assessment. Therefore, 42 participants met study criteria, provided informed consent, completed pre-treatment assessments, and were randomized to treatment (ETAU $n = 21$; ACT $n = 21$). Of this group, two participants did not start treatment in the ACT condition due to unexpected discharge from the unit. Furthermore, one participant later withdrew from the ACT condition and one from the ETAU condition.

Average length of stay on the unit was 10.7 days (*SD* = 11.5). Those in the ACT condition received an average of 3 treatment sessions (*M, Mode, Med* = 3; min = 1, max = 5). Average age of participants was 40 (*SD* = 10). The sample was 64% male and race was predominately African-American (88%). Educational attainment was relatively low in the sample, with 35% not graduating high school, 36% obtaining a high school diploma or GED, and 17% having some post-secondary education. The majority of participants were unemployed or receiving disability compensation (86%), with only 13% working full- or part-time. Only 12% of participants had private insurance. Regarding housing status, 29% were homeless or living in a shelter, 38% were living with family or friends, 12% were renting/owning property, and 17% were living in supervised housing (e.g., nursing home). Only 12% of participants were married, with the remaining single, divorced, or widowed. The majority of participants carried a primary diagnosis of a psychotic disorder (60%), with the remaining diagnosed with a major mood disorder with psychotic symptoms. Over half of the participants possessed a comorbid substance use disorder and 82% had at least one major medical condition. See Table 3 for a detailed breakdown of demographic characteristics.

3.2. Preliminary Analyses

3.2.1. Demographic characteristics. Analyses were conducted using an alpha level of .05 and two-tailed tests unless otherwise specified. Due to small sample size, marginally significant results ($p < .10$) also were noted. Preliminary analyses were conducted to examine the comparability of groups on pretest measures. Independent-samples t-tests were conducted between the groups on participant age and length of stay on the unit. No significant differences were found (*p*s = n.s.). Chi square tests were not significant between groups for race, level of education, relationship status, employment status, housing status, insurance coverage, primary diagnosis, presence of a substance use disorder, or presence of a major medical condition (all *p*s = n.s.). However, there was a significant difference found between groups for gender ($\chi_1 = 8.40$, $p < .01$). There were significantly more female participants in the ACT condition (57%) compared to the ETAU condition (14%).

3.2.2. Pre-treatment scores. Pretest scores between groups were evaluated using independent-samples t-tests. Results showed no significant differences for self-reported hallucination frequency, distress, or believability; or for BPRS total scores or anergia, affect, and disorganization subscales (all *p*s = n.s.). A significant difference was found for the BPRS thinking disturbance subscale ($t_{40} = 3.86$, $p < .01$). Marginally significant differences were found for the BPRS affect ($t_{40} = 2.43$, $p = .067$) and disorganization ($t_{40} = 1.62$, $p = .053$) subscales. Specifically, the ACT group showed greater severity on the BPRS affect subscale, whereas the ETAU group showed greater severity on the thinking disturbance and disorganization subscales. Based on recommendations by Behar and Borkovec (2003) and due to the identified pretest differences between groups, pretest scores were used as covariates in the primary analyses.

3.2.3. Gender differences. Due to gender differences between groups, follow-up chi square and t-tests were computed by gender on demographic characteristics and pretest scores. Significant differences were found between gender and relationship status (χ_1= 13.59, $p < .01$) and comorbid substance use disorder (χ_1= 5.41, $p < .05$). Specifically, males were more likely than females to be single (80% vs. 27%, respectively) and to possess a comorbid substance use disorder (70% vs. 33%, respectively). In addition, a significant difference was found between males and females on the BPRS affect subscale ($t_{40} = 3.90$, $p < .001$). Also, a marginally significant difference was found for gender and the BPRS thinking disturbance subscale ($t_{40} = 1.80$, $p = .079$). Specifically, males showed greater severity on the BPRS thinking disturbance subscale (male M =13.6; female M = 10.9), whereas females showed greater severity on the BPRS affect subscale (male M =21.4; female M = 26.1). No other significant differences were found (all *p*s = n.s.). Due to low gender x treatment cell sizes, statistical examination of post-treatment measures was not possible. However, visual examination of post-treatment means did not suggest any systematic differences within groups by gender.

In summary, males showed greater severity of psychotic symptoms and more comorbid substance use than females, who possessed more severe mood and anxiety problems. However, gender was not used in the following analyses as a covariate. It was deemed more appropriate to control for any pre-treatment differences than gender *per se*, as such a procedure would be technically possible but conceptually problematic.

3.2.4. Other analyses. The demographic characteristics of those who agreed to participate in the study were compared to those who refused using chi square or independent-samples t-tests where appropriate. No significant differences were found (all *p*s = n.s.). Finally, a Pearsons correlation calculated between BPRS total score and number of ACT sessions provided was not significant (*p* = n.s.), suggesting that number of sessions provided was not associated with outcome.

3.3. Primary Analyses[2]

Of the thirty-eight participants who completed treatment, post-treatment data were missing for 9 participants due to their departure from the unit prior to completing the assessments. Therefore, completer analyses were conducted on the remaining 15 participants in the ETAU condition and 14 participants in the ACT condition. See Table 4 for a depiction of raw score means and standard deviations for outcome measures (before evaluation at covariates).

3.3.1. Clinician-rated measures. Separate analyses of covariance (ANCOVAs) were conducted on BPRS scales, using pretest scores as covariates. A marginally significant difference was found on the BPRS affect subscale ($F_{1, 26} = 3.47$, $p = .074$), with those in the ACT condition ($M = 15.6$)[3] showing greater improvement compared to the ETAU condition ($M = 18.9$). See Figure 2. No significant differences were found between the groups on the BPRS total or thinking disturbance, anergia, and disorganization subscales (all *p*s = n.s.).

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[2] Due to multiple individual group comparisons that could increase Type I error, data also were interpreted based on a Bonferroni corrected alpha level of .004 (Bonferroni-corrected $\alpha = .05/n$, where $n = 12$ group comparisons). Based on the Bonferroni correction, no significant differences would be identified. However, due to the modest sample size for group comparisons in the study, this correction would likely be overly conservative and inflate Type II error. Thus, considering the relatively small sample size, the preliminary nature of this study, and the importance of balancing Type I and Type II error, unadjusted p values are reported.

An ANCOVA was conducted on CGI severity ratings, using pretest scores as the covariate. No significant difference was found (p = n.s.). In addition, an independent-samples t-test was conducted to examine CGI improvement ratings at post-treatment. A marginally significant difference was found ($t_{27} = 2.00$, $p = .053$), with the ACT group ($M = 2.3$) showing greater improvement at post compared to the ETAU group ($M = 3.0$).

3.3.2. Self-report measures. Separate ANCOVAs were conducted for frequency, distress, and believability of hallucinations at post-treatment, using pre-treatment scores as covariates.[4] A significant difference between groups was found in distress from hallucinations ($F_{1, 26} = 4.62$, $p < .05$), with the ACT group ($M = 5.7$) showing greater improvement compared to the ETAU group ($M = 7.6$). See Figure 3. No significant differences were found for frequency or believability associated with hallucinations (*p*s = n.s.).

Separate ANCOVAs were conducted on the SDS work, social, and family subscales. A significant difference was found between the groups on the SDS social subscale ($F_{1, 26} = 9.09$, $p < .01$), with the ACT group ($M = 5.9$) showing greater improvement compared to the ETAU group ($M = 8.2$). See Figure 4. No significant differences were found for the SDS work or family subscales (*p*s = n.s).

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[3] Note that the means presented in text are based on covariate analyses.

[4] Too few participants self-reported delusions for analyses to be conducted (total $n = 8$).

3.3.3. Objective measures. At 4-month follow-up, 45% of participants in the ETAU only condition (9/20) were rehospitalized compared to only 28% of those in the ACT condition (5/18). However, the chi square test was not significant (p = n.s.). A Kaplan-Meier survival analysis was conducted on time to rehospitalization between groups over the follow-up period. No significant difference was found (p = n.s.).

3.4. Secondary Analyses

3.4.1. Intention-to-treat analyses (ITT). Because of problems with missing data at post-treatment, the last observation carried forward method was used for ITT analyses (ETAU $n = 21$; ACT $n = 21$). As with completers only, separate ANCOVAs with pretest scores as covariates were used to examine ITT data. Similar to results in completers only, significant differences were found at post-treatment between groups on the SDS social subscale ($F_{1,38} = 4.70$, $p < .05$) and self-reported distress associated with hallucinations ($F_{1,39} = 6.30$, $p < .05$) favoring the ACT group. No other significant differences were found (all ps = n.s.).

3.4.2. Clinically significant change. Responders were defined as participants who showed at least 2 standard deviations improvement (Jacobson & Truax, 1996) on the BPRS total score and thinking disturbance subscale. Based on chi square results, a significant difference was found in improvement on BPRS total scores between groups ($\chi_1 = 6.81$, $p < .01$). Significantly more participants reached a clinically significant improvement in the ACT group (50%) compared to the ETAU group (7%). No significant difference was found between the groups in clinically significant improvement on the BPRS thinking disturbance subscale (p = n.s.). See Figure 5.

In addition, effect sizes (Cohen's *d*) were calculated for changes on the BPRS total score and thinking disturbance subscale. According to Cohen's (1988) guidelines, the ACT and ETAU groups showed large effect size gains from pre- to post-treatment. Furthermore, the ACT group showed medium effect size gains compared to the ETAU only group at post-treatment. See Table 5.

3.4.3. Regression analyses. An analysis was conducted to examine whether believability in hallucinations mediated the relationship between frequency of hallucinations and associated distress. Based on the recommendations by Baron and Kenny (1986), three independent regression equations were computed: regressing the mediator (i.e., believability) on the independent variable (i.e., frequency); regressing the dependent variable (i.e., distress) on the independent variable; and regressing the dependent variable on both the independent and mediator variables. Mediation occurs if the first two regressions are significant, and in the third equation, the strength of the relationship between the independent and dependent variables is decreased by inclusion of the mediator. The following self-report measures were used in the analyses: hallucination frequency over the past month (retrospectively assessed at pre-treatment), current distress associated with these hallucinations (assessed at pre-treatment), and post-treatment distress associated with these hallucinations.

All the above conditions were met. Frequency of hallucinations over the past month significantly predicted pre-treatment believability of hallucinations ($\beta = .69$, $t_{41} = 5.96$, $p < .001$). Frequency also predicted post-treatment distress about hallucinations ($\beta = .44$, $t_{41} = 2.55$, $p < .05$). Finally, believability ($\beta = .52$, $t_{41} = 2.56$, $p < .05$) but not frequency of hallucinations ($p = .61$) predicted associated distress. Testing the standard error of the indirect effect using the Sobel test indicated that believability mediated the relationship between frequency of hallucinations and associated distress ($t_{41} = 2.35$, $p = .05$). These results are consistent with the hypothesis that the increased frequency of hallucinations would lead to stronger believability in them, which in turn would result in more distress. However, results are tempered by the possible confound of the retrospective reporting of hallucination frequency.

The relationship between believability in hallucinations, associated distress, and treatment outcome also was explored. First, repeated-measures ANOVAs were conducted to examine pre- to post-treatment changes in distress separately for each group. A significant time main effect showing decreases in distress related to hallucinations was found for the ACT group ($F_{1,13} = 5.56$, $p < .05$) but not the ETAU group (p = n.s.). Next, a multiple regression analysis was conducted to test whether change in believability of hallucinations predicted associated distress beyond change in their frequency for the ACT group. Change in frequency was entered into the regression equation first followed by change in believability to predict change in distress. Change in believability was an independent predictor of change in distress beyond change in frequency, which was only marginally significant ($p = .062$). The same regression analysis was not significant when run on the ETAU only group (p = n.s.) as expected because no significant time effect on believability of psychotic symptoms was found. See Table 6.

4. DISCUSSION

4.1. Summary of Results

The current study was a randomized trial to investigate if ACT was superior to ETAU in treating psychiatric inpatients with psychotic symptoms. Results suggested superiority of ACT on clinician-rated affective symptoms and global improvement, and self-reported distress associated with hallucinations and disability associated with social functioning at post-treatment. Furthermore, significantly more participants in the ACT group achieved clinically significant improvement in general psychopathology. Overall, both groups showed large effect size improvements at post-treatment, with the ACT group showing medium effect size gains compared to the ETAU group. Results supported the hypothesis that believability in hallucinations is a mediator of the relationship between symptom frequency and associated distress. Furthermore, pre- to post-treatment decreases in believability were observed only in the ACT group, and change in believability predicted change in associated distress after controlling for change in symptom frequency. At 4-month follow-up, 28% of the ACT group compared to 45% of the ETAU group were rehospitalized.

4.2. Support for Hypotheses

4.2.1. Hypothesis #1. It was hypothesized that those receiving ACT would show superior gains compared to those receiving ETAU at post-treatment. In general, this hypothesis was supported, but only in limited domains. As mentioned, the ACT group showed superiority to ETAU on measures related to affective severity, global improvement, distress associated with hallucinations, and disability related to social functioning. Furthermore, the ACT group showed more clinically significant improvement compared to the ETAU group. Nevertheless, no significant differences between groups were observed on a number other measures, most notably those related to the frequency or severity of psychotic symptoms.

Furthermore, effect size differences between groups were in the medium range. Although raw improvement on almost all measures favored the ACT group (see Table 4), the study appears to have been underpowered to detect these more modest between-group differences. Other studies of CBT for psychosis generally have reported large effect size differences compared to TAU (Gould et al., 2001; Rector & Beck, 2001). However, inability to replicate these findings is not surprising considering differences between the current study and past research.

First, results from previous CBT trials were based largely on studies providing intensive outpatient treatment to higher functioning groups, compared to the minimal treatment provided to inpatients in an acute episode of illness in the current study. Drury et al. (1996) conducted one of the only randomized trials of CBT for inpatients. However, even in this study treatment was quite intensive, consisting of 12 weeks of individual and group therapy (approximately 8 hours per week.) Participants in the current study received an average of three 1-hour individual sessions, with some receiving as little as one treatment session due to short lengths of stay on the unit.

Second, fewer group differences are observed when the quality of the comparison treatments used in trials is increased (see Lewis et al., 2002; Sensky et al., 2000; Tarrier et al., 1998). In the current study, treatment as usual was enhanced though additional therapist contact that patients received for participating in the study. The thorough pre-treatment assessments helped the patient's treatment team provide improved quality of care during hospital stay. In addition, participants in the ETAU condition met briefly with the therapist almost daily, who provided support and answered questions that arose. In contrast to the Bach and Hayes (2002) study, groups were matched on therapist contact (but not treatment type), as ACT patients received individual sessions during the same time that those in the ETAU condition typically received milieu group therapy. Recently, Rector, Seeman, and Zegal (2003) randomly allocated 42 patients with chronic schizophrenia to an enhanced treatment as usual condition or to ETAU plus CBT. A statistical advantage in the CBT group was only demonstrated in improvement in negative symptoms at 6-month follow-up. The authors concluded that low power and the enhanced nature of the TAU condition resulted in less dramatic group differences.

Interestingly, the improvements in the ACT group on certain measures in contrast to others are consistent with the domains specifically targeted by this treatment. Whereas traditional CBT focuses on symptom reduction, ACT emphasizes decreasing the distress/impairment associated with symptoms by enhancing g acceptance. In the current study, ACT and ETAU showed comparable decreases in self-reported frequency of hallucinations. However, only the ACT group showed improvements over time in believability of hallucinations. Furthermore, a significant difference favoring the ACT group was found in distress from hallucinations at post-treatment. It also is noteworthy that the ACT group showed improved outcomes compared to ETAU in mood/anxiety symptoms and impairment from illness. Consistent with the aims of the treatment, strategies for decreasing distress about hallucinations should have positively impacted secondary mood symptoms, and goals/values clarification should have challenged perceived impairment from illness.

Finally, the differences between groups in clinically significant improvement deserve further consideration. Half of the ACT group (*n* = 7) showed improvements in overall psychopathology (BPRS total score) compared to only 7% (*n* = 1) of the ETAU group. A further examination of the BPRS thinking disturbance subscale did not suggest that differences in overall psychopathology were accounted for by improvements in this subgroup of symptoms. Interestingly, the mean difference between groups on the BPRS total score was not significantly different. This suggests that a subgroup of participants did significantly better than others within the ACT group. Post hoc examination of background characteristics between those who did and did not meet criteria for clinically significant change did not reveal any obvious differences. Furthermore, this difference was not accounted for by a gender effect.

4.2.2. Hypothesis #2. It also was hypothesized that ACT would have positive effects on rehospitalization rates. Only 28% of the ACT group in contrast to 45% of the ETAU only group were rehospitalized after 4 months. Bach and Hayes (2002) found that ACT resulted in a 50% reduction in rehospitalization compared to TAU. Results from the current study suggest a 38% reduction in rehospitalization rate in the ACT group compared to the ETAU group. Difference in rehospitalization rate between groups was not statistically significant, likely due to low power. Furthermore, time to relapse (i.e., rehospitalization) between groups was not significantly different, although again the trend favored the ACT group. As mentioned, the enhanced nature of the comparison treatment and the reduced dose of ACT may have diminished these effects in the current study.

Although some studies have reported that CBT can be effective in reducing rehospitalization rate (e.g., Bach & Hayes, 2002; Norman et al., 2002), others have found encouraging trends but not significant effects (e.g., Kuipers et al., 1998; Tarrier et al., 1999; Tarrier et al., 2004). Each psychotic episode is associated with an increase in residual positive symptoms (Wiersma, Nienhuis, Slooff, & Giel, 1998), and the experience of positive symptoms is one of the best predictors of rehospitalization (Tarrier et al., 1991). Therefore, adjunctive psychosocial treatments that have the potential to decrease rehospitalization require further study and attention.

4.2.3. Hypothesis #3. Believability in hallucinations was thought to be a mediator of the relationship between symptom frequency and associated distress. Therefore, change in believability was hypothesized to be predictive of change in distress, specifically for the ACT group. Mediation analyses conducted on pre-treatment scores for the entire sample suggested that the degree to which participants believed in their hallucinations accounted for the relationship between symptom frequency and distress. However, in mediation analyses, it is important to establish the temporal relationship between variables. Because hallucination frequency (retrospective) and believability (current) were assessed at pre-treatment, results should be considered tentative and will require future prospective designs to confirm. Furthermore, results showed that believability only decreased in the ACT group, and change in this domain was predictive of change in distress after controlling for change in symptom frequency.

ACT is based on Relational Frame Theory (RFT), which is a behaviorally-oriented theory and research program concerning the nature of language and cognition (Hayes, Barnes-Holmes, & Roche, 2001). The primary assertion of RFT is that verballymediated private events (e.g., cognitions, emotions, memories, body sensations) do not influence behavior directly through their content or frequency, but instead through the context in which they occur. ACT treatment provides individuals an alternate context from which to experience private events. In other words, whereas traditional cognitive therapy focuses on directly modifying dysfunctional thought content through rational deliberation, ACT focuses on modifying the person's relationship to his or her thinking though the cultivation of metacognitive awareness and acceptance (i.e., separating self from thinking). The results of the current study support this possible mechanism of action in ACT.

Early trials comparing CBT and ACT have tended to yield similar positive outcomes, but the two treatments often differ on process measures. For example, Bruce and Bond (2000) examined mediators of change between ACT and a problem-focused intervention in reducing worker stress. Both treatments were associated with improvements in mental health and other work-related variables. However, improvement in the ACT condition was mediated only by acceptance of private events, whereas gains in the problem-focused condition were mediated by active attempts to modify stressors. ACT studies on depression (Zettle & Raines, 1989), math anxiety (Zettle, 2003), social anxiety (Block, 2002), and pain tolerance (Hayes et al., 1999) have suggested similar processes through which the treatment produces its effects.

4.3. Comparison and Contrast to Bach and Hayes (2002)

The current study represents a partial replication and extension of an earlier study conducted by Bach and Hayes (2002). Both studies are comparable in following ways: treatment of inpatients with psychotic symptoms, brief individual treatment format, comparison of ACT versus TAU, assessment of self-reported psychotic symptoms, and examination of rehospitalization data at 4-month follow-up. However, the current study also possesses unique methodological features. Although the majority of ACT treatment was provided by Bach and Hayes during hospitalization, the final session sometimes occurred within a few days after discharge. All treatment was delivered prior to discharge in the current study. In addition, Bach and Hayes used a 4-session treatment protocol. The amount of treatment in the current study varied based on length of stay. Some participants received as few as one or as many as five sessions, although the majority received three. Overall, the dose of treatment was less in the current study compared to Bach and Hayes. Because number of sessions varied in the current study, the protocol had to be modified so that each session represented a "stand-alone" ACT treatment, including all of the most theoretically relevant components of the treatment. In contrast, ACT in the Bach and Hayes study was based on a more traditional, sequential model of treatment delivery.

The decision to deviate from Bach and Hayes (2002) in the aforementioned areas was based on two factors. First, the aim of the current study was to better investigate the real-world applicability and external validity of the treatment. Treatment was delivered only during hospitalization because it would be unlikely that inpatient treatment could be continued into outpatient in most settings. Also, due to the variable and short lengths of stay in inpatient units today (i.e., approximately one week), few patients would be likely to receive a prescribed number of sessions, especially four. The second reason that the current study deviated from Bach and Hayes concerned the unique characteristics of the study's sample. The sample primarily was comprised of individuals of lower socioeconomic status, many of whom were homeless, making them extremely difficult to follow as outpatients.

The current study differed from Bach and Hayes (2002) in further ways. Although the study differences described above mainly concern issues of external validity, other changes were made to address internal validity concerns. In the Bach and Hayes study, extra-therapist contact cannot be ruled out as an explanation for treatment differences. To reduce this confound, participants in the ACT condition did not receive extra treatment, as ACT sessions were held in the place of other milieu therapy on the unit. Furthermore, modifications were made to enhance TAU in order to balance therapist contact between treatments. For example, feedback from assessments of all participants in the study was provided to the treatment team. Furthermore, the ACT therapist met almost daily with participants in the ETAU condition briefly, providing non-directive support and answering questions or concerns. Finally, in the Bach and Hayes study, self-reported psychotic symptoms were the only symptom ratings collected. In the current study, other standardized clinician-ratings and self-report measures were obtained in order to obtain a more multi-modal assessment.

Although results from the current study were comparable with those of Bach and Hayes (2002), differences also were observed, possibly due to these differences in methodology. Bach and Hayes found that the ACT group reported higher psychotic symptom frequency compared to the TAU group, comparable decreases in associated distress over time across the groups, but lower believability of psychotic symptoms compared to the TAU group. In the current study, hallucination frequency decreased comparably in both groups over time, the ACT group showed lower distress related to hallucinations, and believability significantly decreased only in the ACT group over time. One explanation for the observed differences may be due to the timing of assessments. The current study collected self-ratings of psychotic symptoms at pre- and post-treatment, whereas the Bach and Hayes results were based on ratings obtained at pre-treatment and 4-month follow-up.

Finally, the present study found a 38% decrease in rehospitalization in the ACT group compared to a 50% reduction in the Bach and Hayes study. This discrepancy could have been due to a number of reasons, including differences in treatment dose, sample characteristics, and the enhanced nature of the TAU group. However, this discrepancy may simply be within the range of normal variability considering the small sample size in the current study. See Table 7 for a summary.

4.4. Limitations

The present study possessed several strengths, including randomization to conditions, use of standardized assessment measures, collection of follow-up rehospitalization data, and diversity of sample demographics. However, potential limitations in the study included small sample size, treatment heterogeneity, and non-blinded assessors, which warrant further consideration when interpreting results.

First, sample size in the current study was relatively modest, especially due to missing data at post-treatment, as abrupt patient discharges were common. A priori power analysis was based on an assumed large effect size difference between groups; however, results revealed that actual differences tended to be in the medium range. This resulted in corresponding low statistical power to detect differences between groups. In order to help address this problem, ITT/LOCF analyses were conducted, which revealed similar findings. Furthermore, results in the current study were largely consistent with those found by Bach and Hayes (2002) with twice the current sample size.

Another potential limitation was treatment heterogeneity. Number of ACT sessions varied from one to five, with the majority receiving three. As discussed previously, the decision to vary treatment length was made to better reflect the way treatment typically would be delivered in an inpatient environment, as length of stay varies dramatically between patients. Number of sessions provided in the ACT condition varied as a function of participants' length of stay on the unit. A patient who was discharged after a few days may have received only one session, whereas someone hospitalized for a few weeks may have received as many as five sessions. There was no association found between number of sessions and treatment outcome in the study.

Furthermore, although therapist contact was kept roughly equivalent between groups, type of treatment was often different. Milieu therapy could include both group and individual therapy. However, the majority of individuals in the ETAU condition received only group therapy, whereas all ACT sessions were delivered in an individual format. Therefore, differences between groups could have been a factor of the format of treatment in contrast to ACT specifically.

A drawback of the study was that assessors and staff were not blind to treatment allocation. Furthermore, it is possible that demand characteristics could have influenced self-report ratings, as they were collected at the same time as the clinical assessment. However, the following points are important to consider. Outcome was assessed in a multi-modal fashion and included self-report, clinician ratings, and objective measures.

Regardless of assessment method, results consistently favored the ACT group, and even when significant differences were not found, the trend was similar.

Another potential confound was that the therapist sometimes was the assessor at post-treatment. However, in order to reduce this potential bias, the ACT therapist met frequently with participants in the ETAU only condition, who considered the ACT therapist to be their own therapist. Furthermore, interrater agreement on clinician measures was high (interclass correlation = .90), suggesting reliable administration of measures.

Finally, the composition of the sample is important to consider. One strength of the current study was that the majority of participants were non-Caucasian, in contrast to previous studies in which samples were mostly comprised of Caucasian patients. It was a helpful contribution to the literature to examine treatment of psychosis in this more racially diverse sample. Furthermore, the sample in the current study was comprised of a relatively severe group of patients, even for inpatient standards. Many were homeless, possessed serious comorbid medical and psychiatric conditions and substance use problems, and were of lower educational attainment. However, the study demonstrated that ACT could be adapted successfully to treat these patients with minimal alterations in the protocol. The more unique a sample, the less readily one can generalize the results of the study to other populations. Relatively few participants in the current study had prominent delusions, so the findings may be most applicable to individuals experiencing hallucinations. Some evidence suggests that cognitive-behavioral therapies may be particularly useful for treating hallucinations (Lewis et al., 2002; Tarrier et al., 2001). Similarities in results between the current study and that of Bach and Hayes (2002) suggest that ACT can be modified for different populations with similar success. Nevertheless, generalizability to schizophrenic populations specifically may be limited due to the mixed diagnostic status of participants in both studies.

4.5. Implications and Future Directions

The present study supported the conclusions of Bach and Hayes (2002) concerning the benefit of ACT for the treatment of inpatients with psychotic symptoms. In both studies, outcome with ACT was superior to TAU. Similar results have been reported in trials examining more traditional CBT approaches for schizophrenia and related psychotic disorders. However, in trials comparing CBT with supportive therapy, the specific benefits of CBT become more modest, or disappear altogether. Therefore, it will be important for future research to compare ACT to other active treatments within studies that better control for non-specific factors.

Neither Bach and Hayes (2002) nor the current study was designed to support the conclusion that ACT is a specifically efficacious treatment for psychotic disorders, as the comparison groups used did not control for all non-specific treatment factors, such as treatment type, credibility, novelty, etc. Results of the Bach and Hayes trial suggested that additional treatment was beneficial for inpatients. The current study replicated and extended these findings to suggest that individual treatment, even if brief, helps patients cope better with psychotic symptoms compared to milieu group therapy. Based on these preliminary but suggestive findings, future studies with larger samples are warranted. Furthermore, future trials should begin to examine systematically the relative efficacy of CBT, ACT, and other empirically-supported treatments for psychosis (Gaudiano, in press).

One possibility is that both CBT and ACT will yield comparable results, yet operate through different mechanisms of action. The current study suggests the importance of targeting believability in psychotic symptoms in contrast to their frequency *per se*. Traditional cognitive-behavioral theories tend to focus on the importance of decreasing the frequency of symptoms, whereas ACT, based on RFT, suggests that the focus should be on undermining believability to impact distress. Results of the current study were consistent with the hypothesis that believability mediates the relationship between frequency and associated distress, and that ACT specifically affects believability to lessen distress. However, change in the frequency of hallucinations also predicted distress in the current study. Therefore, and consistent with their relative theories, both CBT and ACT are likely to produce improvement, possibility through different mechanisms of action. This examination of potential mediators/moderators of treatment outcome will become particularly important in future studies. In particular, future research should assess these variables in a prospective manner to establish the temporal relationships that can confirm mediation effects. Specifically, variables such as psychotic symptom frequency, believability, and distress should be assessed at different time periods, including at various points during treatment (e.g., baseline, pre-treatment, mid-treatment, post-treatment, and follow-up).

Furthermore, alternate explanations for the observed effects deserve further consideration. The current study and the Bach and Hayes (2002) study showed demonstrable treatment effects with only minimal ACT treatment. Similarly, brief treatment has been shown to be effective using a more traditional CBT approach. For example, Turkington et al. (2002) randomly assigned 422 patients with schizophrenia living in the community to CBT or TAU. Psychiatric nurses were trained to deliver 6, hour-long sessions of CBT. Results revealed that those in the CBT condition showed greater improvement in overall symptomatology, insight, and depression compared to the TAU group; however, there was no difference in psychotic symptom improvement between groups. Others have experimented with the use of briefer group treatments for auditory hallucinations with promising effects (Chadwick, Sambrooke, Rasch, & Davies, 2000; Wykes, Parr, & Landau, 1999).

Lambert (in press) asserts that early treatment response suggests the role of non-specific treatment factors, as the effect is produced before the patient would be expected to practice and to obtain the positive benefits from the coping skills taught in sessions. To further support his hypothesis that non-specific factors account for improvement in psychotherapy, Lambert points to other intriguing findings: the lack of contrast in effects based on expertise of therapists, the frequent null findings in comparative outcome and dismantling studies, and the observation that a substantial proportion of treatment response is produced after only the first few sessions in cognitive therapy. However, alternative explanations for early treatment response also exist. For example, Fennel and Teasdale's (1997) analysis of CBT for depression suggested that early responders were better able to negotiate therapeutic tasks in therapy. In addition, Renaud et al. (1998) found that early response was most dramatic in a nondirective supportive treatment compared to CBT in the treatment of adolescents with depression. Future studies will require the use of control conditions that better control for non-specific treatment factors to demonstrate specificity of treatments for psychosis. Furthermore, the examination of process measures during early phases of treatment may help in the separation of specific and non-specific effects.

Finally, the present study demonstrated that ACT can be easily and minimally adapted for various patient populations and settings. Perhaps one of the most useful features of the treatment is that it proposes a theoretical explanation for human suffering that can be used to conceptualize and treat conditions as diverse as math anxiety and schizophrenia. Although the sample in the current study was more diverse than most, little modification of ACT was necessary to achieve positive outcomes consistent with those observed in other studies. Rosen and Davison (2003) argue that future outcome research should pay more attention to defining empirically-supported principles of change in contrast to trademarked treatment packages for every different disorder. ACT may prove particularly useful in this pursuit, as the treatment emphasizes theoretically and empirically-derived principles of behavioral change that can be adapted easily to treat various conditions.

The United Kingdom's National Institute for Treatment Excellence (2002) guidelines for the treatment of schizophrenia lists CBT as one empirically-supported psychotherapy. However, in the US, results of a recent study by the American Psychiatric Association's Practice Research Network showed that individuals in Medicaid or Medicare programs and those over 65 rarely receive any psychosocial interventions in addition to medication for the treatment of schizophrenia. Overall, only 21 percent of the 151 adults with schizophrenia studied were receiving a CBT-type intervention (Moran, 2003). The current study suggests that mindfulness/acceptance-based CBT approaches are promising. Future research comparing specific components and investigating possible mechanisms of action in the wide range of cognitive-behavioral approaches for psychosis is greatly needed to expand our knowledge base and to inform clinical practice with this patient population.

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Table 1: CBT for Psychotic Disorders Pilot Study: Means (Standard Deviations) and Significant Differences for Self Report Measures

Measures	Pre-Treatment	Post-Treatment	*z*	*p*
BDI	22.0 (7.5)	12.6 (8.4)	1.83	.07**
SDS	18.4 (2.5)	13.4 (4.1)	2.02	.04*
ATQ				
Believability	93.2 (33.1)	64.8 (31.3)	2.02	.04*
Frequency	90.2 (24.5)	83.2 (60.0)	0.41	.69

Note. Data taken from Gaudiano et al. (2001). *$p < .05$; **$p < .10$. BDI = Beck Depression Inventory; SDS = Sheehan Disability Scale; ATQ = Automatic Thoughts Questionnaire Believability and Frequency Subscales.

Table 2: Assessment Schedule for Current Study

Measure	Pre-Treatment	Post-Treatment	Follow-Up
BPRS	X	X	
SDS	X	X	
Psychotic Symptoms Self-Ratings			
Frequency	X	X	
Distress	X	X	
Believability	X	X	
CGI			
Severity	X	X	
Improvement		X	
Rehospitalization Data			X

Note. BPRS = Brief Psychiatric Rating Scale; SDS = Sheehan Disability Scale; CGI = Clinical Global Impressions Scales.

Table 3: Demographic Characteristics of the Sample

Characteristic	Total Sample (*n* = 42)	ETAU (*n* = 21)	ETAU + ACT (*n* = 21)
Sex			
Male	64% (27)	86% (18)	43% (9)
Female	36% (15)	14% (3)	57% (12)
Race			
African-American	88% (37)	85% (18)	91% (19)
Caucasian	7% (3)	5% (1)	9% (3)
Hispanic	2% (1)	5% (1)	0% (0)
Asian	2% (1)	5% (1)	0% (0)
Education			
Less than H.S.	2% (1)	6% (1)	0% (0)
Some H.S.	33% (14)	35% (6)	40% (8)
H.S. diploma/GED	36% (15)	41% (8)	35% (7)
Some college	17% (7)	12% (2)	25% (5)
Missing	12% (5)		
Employment			
Unemployed	26% (11)	30% (6)	24% (5)
Part-time	5% (2)	5% (1)	5% (1)
Full-time	7% (3)	10% (2)	5% (1)
Disability	60% (25)	55% (11)	66% (14)
Missing	2% (1)		
Relationships			
Single	60% (25)	85% (17)	38% (8)
Married	12% (5)	5% (1)	19% (4)
Divorced/separated	22% (9)	5% (1)	38% (8)
Widowed	5% (2)	5% (1)	5% (1)
Missing	2% (1)		
Housing			
Own/rent	12% (5)	5% (1)	19% (4)
Friends/family	38% (16)	32% (6)	48% (10)
Shelter/homeless	29% (12)	42% (8)	19% (4)

Table 3 continued

Supervised	17% (7)	21% (4)	15% (3)
Missing	5% (2)		
Insurance			
CBH	88% (37)	91% (19)	86% (18)
Private	12% (9)	9% (2)	14% (3)
Primary Axis I Diagnosis			
Psychotic Disorder*	60% (25)	67% (14)	52% (11)
Mood Disorder**	40% (17)	33% (7)	48% (10)
Substance Use Disorder			
Yes	57% (24)	62% (13)	52% (11)
No	42% (18)	38% (8)	48% (10)
Major Medical Conditions			
One or more	82% (34)	81% (17)	85% (18)
None	17% (7)	19% (4)	15% (3)
Missing	2% (1)		

Note. CBH = Community Behavioral Health. Substance use disorder defined as alcohol abuse/dependence or other substance abuse/dependence. * Depressive Disorder NOS (*n* = 11), Major Depression with psychotic features (*n* = 9), and Bipolar Disorder with psychotic features (*n* = 2). ** Psychosis NOS (*n* = 15), Schizoaffective Disorder (*n* = 13), and Schizophrenia (*n* = 10).

Table 4: Means (Standard Deviations) of Pre- and Post-Treatment Measures for Completers Only and Intention to Treat Analyses

	Completers Only n = 29		Intention to Treat n = 42	
Measures	ETAU n = 15	ETAU + ACT n = 14	ETAU n = 21	ETAU + ACT n = 21
BPRS-Total				
Pre	59.8 (7.2)	60.3 (9.1)	59.0 (8.0)	57.3 (9.0)
Post	46.7 (9.5)	41.9 (9.1)	50.0 (10.5)	45.0 (9.0)
BPRS-TD				
Pre	13.5 (5.0)	11.2 (4.2)	14.6 (5.2)	10.7 (3.8)
Post	10.9 (4.3)	7.7 (3.3)	12.7 (5.3)	8.4 (3.3)
BPRS-Anergia				
Pre	12.1 (4.7)	13.8 (4.3)	11.2 (5.0)	13.0 (4.5)
Post	8.5 (4.2)	8.6 (3.4)	8.7 (4.5)	9.5 (3.9)
BPRS-Affect				
Pre	23.9 (3.0)	25.7 (3.1)	21.9 (4.3)	24.3 (4.1)
Post	18.2 (5.3)	16.4 (4.5)	17.8 (4.7)	18.1 (5.1)
BPRS-D				
Pre	6.9 (2.4)	5.9 (2.8)	7.4 (2.7)	5.8 (2.5)
Post	5.7 (2.4)	5.5 (2.4)	6.6 (3.0)	5.6 (2.2)
CGI-S				
Pre	6.1 (0.3)	6.0 (0.4)	6.1 (0.2)	5.9 (0.4)
Post	4.7 (1.1)	4.1 (0.9)	5.1 (1.1)	4.7 (1.1)
CGI-I				
Post	3.0 (1.2)	2.3 (0.6)	--	--
H-Frequency				
Pre	4.6 (2.4)	5.5 (1.7)	4.6 (2.4)	5.1 (2.3)
Post	3.7 (2.3)	3.9 (2.3)	4.0 (2.3)	4.1 (2.4)

Table 4 continued

H-Distress				
Pre	6.2 (3.7)	8.3 (2.3)	5.9 (3.6)	7.6 (3.1)
Post	6.9 (3.2)	6.5 (3.3)	6.4 (3.4)	6.4 (3.6)
H-Believability				
Pre	7.2 (3.4)	7.6 (3.0)	7.1 (3.2)	7.0 (3.6)
Post	6.9 (3.6)	5.7 (3.8)	6.9 (3.3)	5.7 (4.0)
SDS-Work				
Pre	8.7 (2.0)	8.6 (1.6)	8.3 (2.2)	8.9 (1.4)
Post	7.2 (3.2)	6.3 (2.6)	7.1 (2.9)	7.3 (2.7)
SDS-Social				
Pre	7.7 (2.5)	8.9 (1.5)	7.1 (3.3)	8.5 (2.5)
Post	7.6 (2.7)	6.5 (2.9)	7.0 (3.4)	6.9 (3.2)
SDS-Family				
Pre	8.8 (1.3)	8.9 (2.3)	8.4 (2.1)	8.6 (2.8)
Post	7.2 (2.7)	6.9 (2.6)	7.2 (2.8)	7.2 (2.9)

Note. ETAU = Enhanced Treatment as Usual; ACT = Acceptance and Commitment Therapy; BPRS = Brief Psychiatric Rating Scale; BPRS-TD = thinking disturbance subscale; BPRS-D = disorganization subscale; H-Frequency = self-reported frequency of hallucinations; H-Distress = self-reported distress from hallucinations; H-Believability = self-reported believability in hallucinations; CGI = Clinical Global Impressions Scales; CGI-S = severity rating; CGI-I = improvement rating; SDS = Sheehan Disability Scale, SDS-Work = work subscale; SDS-Social = social subscale; SDS-Family = family subscale.

Table 5: Effect Size Changes (Cohen's *d*) on the BPRS Total and Thinking Disturbance Subscale Over Time and Between Groups for Completers Only*

Time Point	ETAU	ETAU + ACT	(ETAU + ACT) - ETAU
Pre to Post (Within)			
BPRS-Total	1.40	1.67	--
BPRS-TD	0.78	0.85	--
Post (Between)			
BPRS-Total	--	--	0.41
BPRS-TD	--	--	0.45

Note. ETAU = Enhanced Treatment as Usual; ACT = Acceptance and Commitment Therapy; BPRS = Brief Psychiatric Rating Scale; BPRS-TD = Thinking Disturbance Subscale.* The between group comparisons were calculated based on adjusted means.

Table 6: Hierarchical Multiple Regression Analysis Predicting Change in Distress about Hallucinations Entering Change in Frequency of Hallucinations First and Change in Believability of Hallucinations Second in the ACT Group

	Coefficients			
Variables	Unstandardized	Standardized	*t*	*p*
1. Frequency	.43	0.35	2.08	.062
2. Believability	.52	0.76	4.54	.001

Note. Final Model: $F_{2, 11} = 12.41$, $p < .01$, $R^2 = 0.69$. Frequency = self-reported frequency of hallucinations; Believability = self-reported believability of hallucinations.

Table 7: Comparison of the Current Study and Bach and Hayes (2002)

Characteristics	Bach & Hayes	Current Study
Sample		
Race	75% Caucasian	88% African-American
Female	36%	36%
Primary psychotic disorder	75%	60%
Comorbid SUD	19%	57%
Total size	80	42
ACT		
Format	Individual	Individual
Length	4 sessions	Variable (*M* = 3)
Timing	Inpatient to outpatient	Inpatient only
TAU	Treatment as usual	Enhanced TAU
Measures		
Self-ratings of symptoms	Yes	Yes
Other self-report	No	Yes
Clinician-ratings	No	Yes
Results	Pre to Follow-Up	Pre to Post
Hallucinations-Frequency	ACT > TAU	ACT = ETAU
Hallucinations-Believability	ACT < TAU	ACT < ETAU
Hallucinations-Distress	ACT = TAU	ACT < ETAU
Clinically significant gains	N/A	ACT > ETAU
Affective symptoms	N/A	ACT < ETAU
Social impairment	N/A	ACT < ETAU
Follow-up rehospitalization	ACT = 50% reduction	ACT = 38% reduction

Note. TAU = Treatment as Usual; ACT = Acceptance and Commitment Therapy; SUD = Substance Use Disorder.

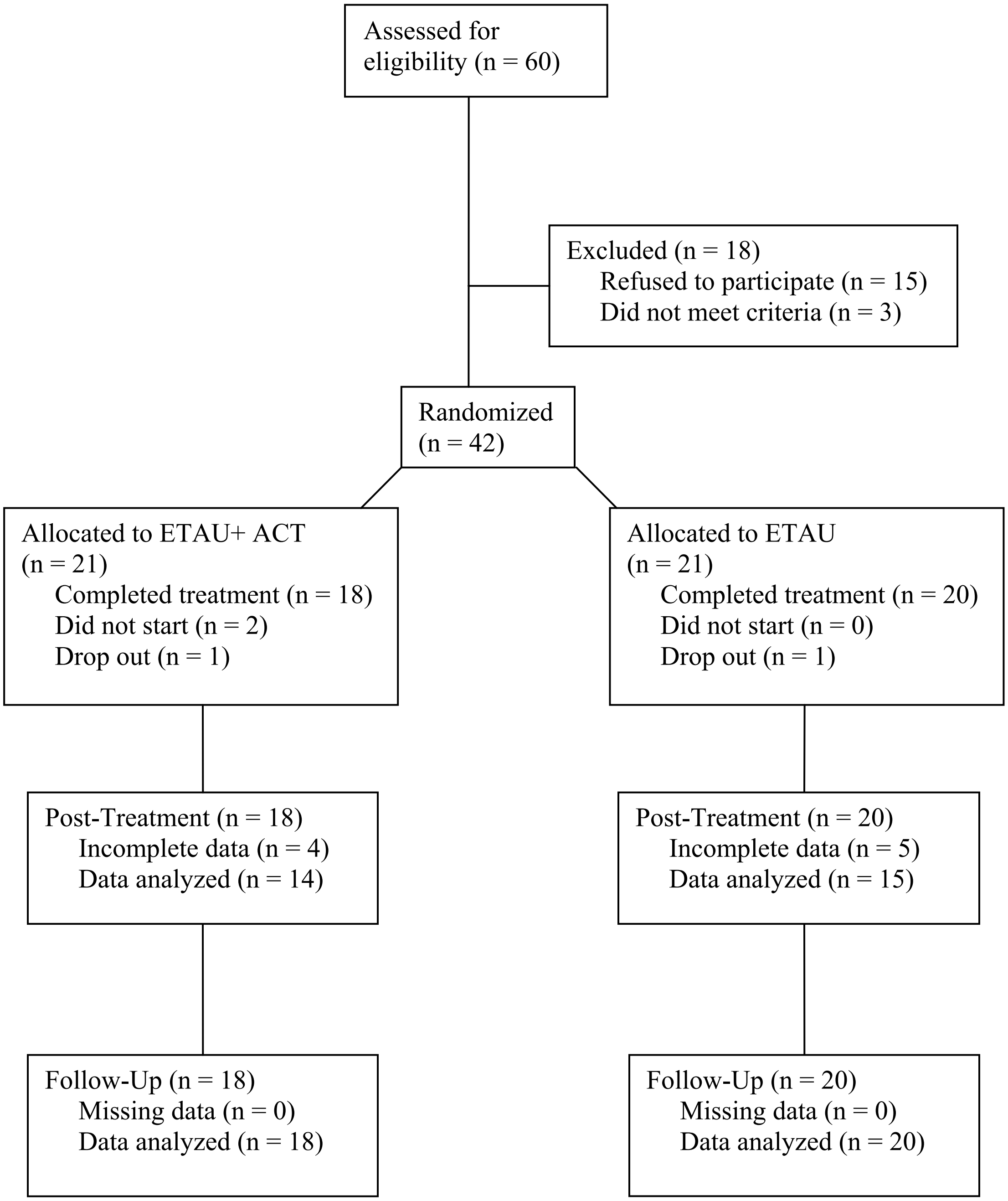
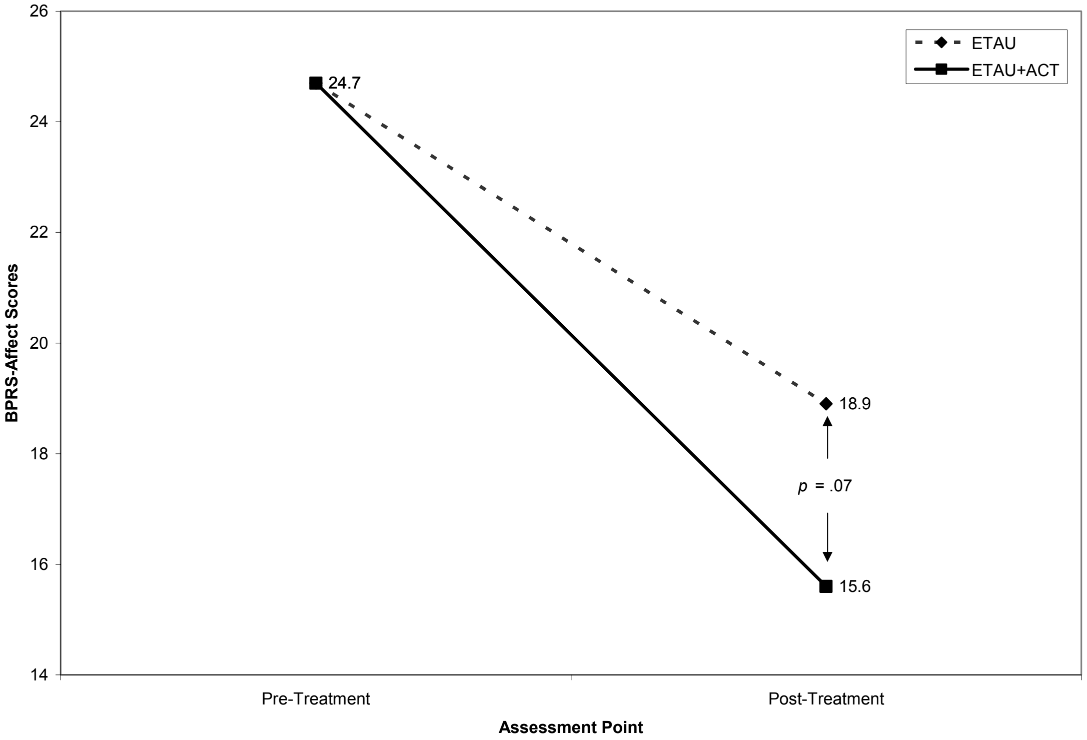
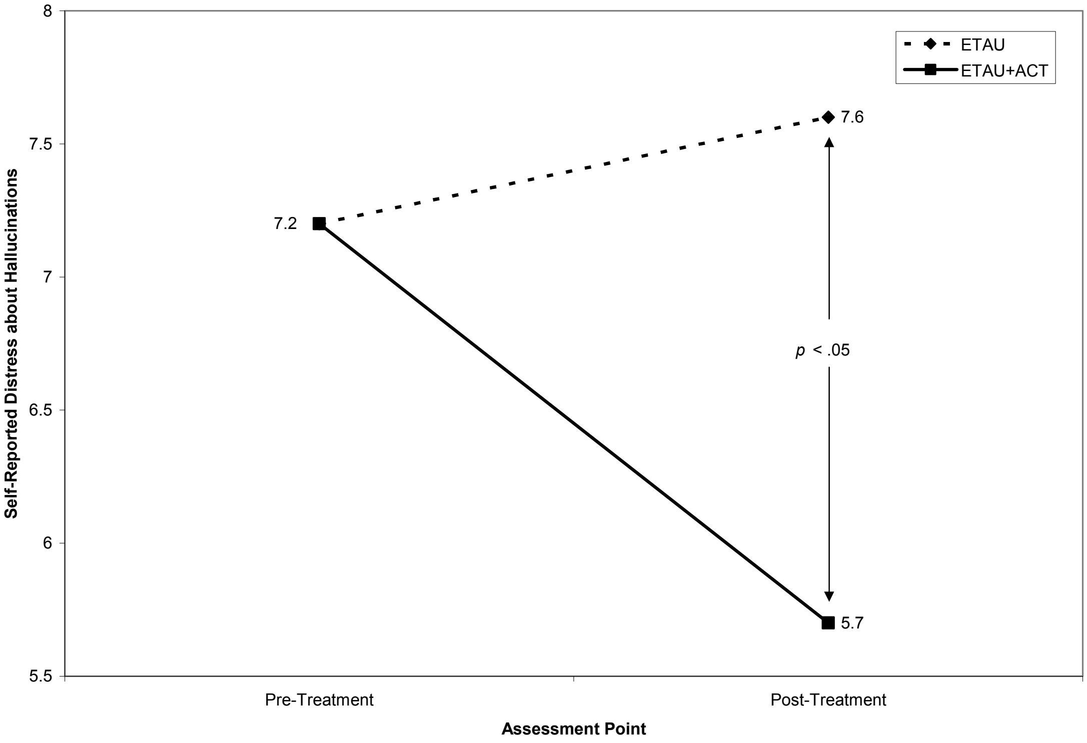

Assessed for eligibility (n = 60)
Excluded (n = 18)
Refused to participate (n = 15)
Did not meet criteria (n = 3)
Randomized (n = 42)
Allocated to ETAU+ ACT (n = 21)
Completed treatment (n = 18)
Did not start (n = 2)
Drop out (n = 1)
Allocated to ETAU (n = 21)
Completed treatment (n = 20)
Did not start (n = 0)
Drop out (n = 1)
Post-Treatment (n = 18)
Incomplete data (n = 4)
Data analyzed (n = 14)
Post-Treatment (n = 20)
Incomplete data (n = 5)
Data analyzed (n = 15)
Follow-Up (n = 18)
Missing data (n = 0)
Data analyzed (n = 18)
Follow-Up (n = 20)
Missing data (n = 0)
Data analyzed (n = 20)

Figure 1: Participant Flow Diagram for Study Phases



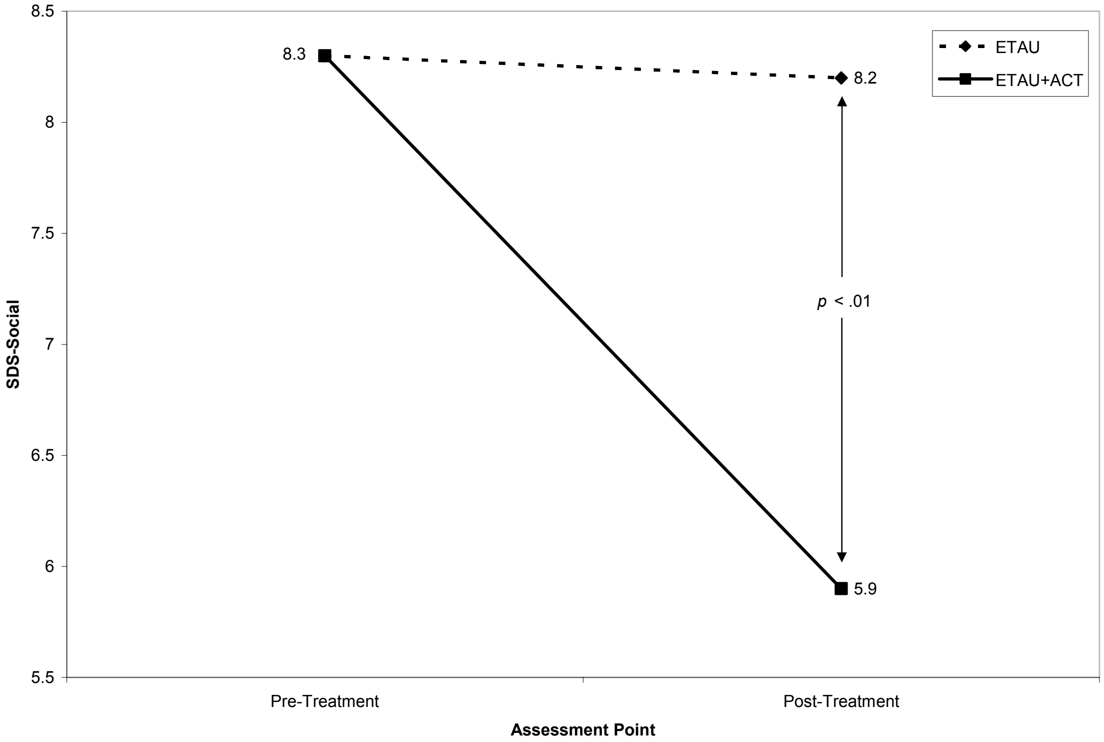
Note. Pre-treatment scores used as covariate.

Figure 2: Group Differences on the Brief Psychiatric Rating Scale Affect Subscale



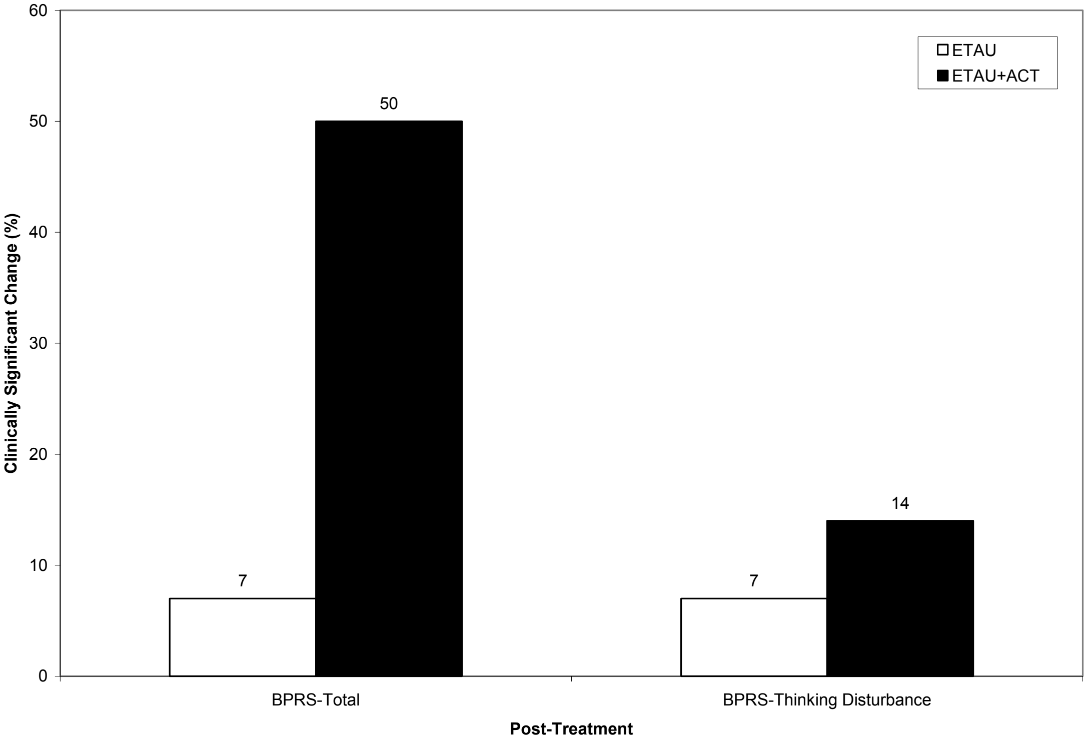
Note. Pre-treatment scores used as covariate.

Figure 3: Group Differences on Self-Reported Distress about Hallucinations



Note. Pre-treatment scores used as covariate.

Figure 4: Group Differences on the Sheehan Disability Scale Social Subscale



Note. Clinically significant change defined as 2 standard deviation improvement pre- to post-treatment.

Figure 5: Clinically Significant Change on the Brief Psychiatric Rating Scale Total Score and Thinking Disturbance Subscale at Post-Treatment

APPENDIX A: SELF-REPORT RATINGS OF PSYCHOTIC SYMPTOMS[5]

Instructions: Read the questions and record the participants' responses to the following based on assessment of psychotic symptoms.

FREQUENCY

1. On average, how often have you heard voices [or seen X (hallucination); or thought about X (delusion)] in the past month [or since treatment started]?

(1) Never
(2) less than once a week
(3) about once a week
(4) several times a week
(5) daily
(6) more than once a day
(7) almost constant

1a. Hallucinations _____ 1b. Delusions _____

DISTRESS

2. On a scale from 0 to 10, how bothered are you when you hear voices [or see X (hallucination); or think about X (delusion)]? Zero means not distressed at all and 10 means the most distressed you've ever been.

0 1 2 3 4 5 6 7 8 9 10
/ / / / / / / / / / /

Not bothered at all — Most bothered you've ever been

2a. Hallucinations _____ 2b. Delusions _____

BELIEVABILITY

3. On a scale from 0 to 10, how much do you believe that when you hear voices [or when you see X (hallucination); or when your think about X (delusion)] that they are real [or that it is true (for delusion)]? Zero means that you are certain it is not real or true, and 10 means you are absolutely certain that it is real or true.

0 1 2 3 4 5 6 7 8 9 10
/ / / / / / / / / / /

Certain not real or true — Certain real or true

3a. Hallucinations _____ 3b. Delusions _____

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[5] Adapted from Bach and Hayes (2002).

APPENDIX B: THE TREATMENT OF PSYCHOTIC DISORDERS WITH ACCEPTANCE AND COMMITMENT THERAPY IN AN INPATIENT SETTING[6]

I. Background

Although the development of the newer atypical neuroleptics has produced considerable advancements in the treatment of psychotic disorders, many patients continue to experience both positive and negative symptoms even when medication compliance is not an issue. Therefore, psychosocial treatments with substantiated efficacy and effectiveness that can be used in conjunction with pharmacotherapy are greatly needed. Studies have demonstrated that cognitive behavior therapy (CBT) can be successfully adapted for treating psychotic disorders, including schizophrenia (Beck & Rector, 2000; Gould et al., 2001). Furthermore, data suggest that CBT may prove more efficacious than supportive psychotherapy for schizophrenia (Tarrier, et al., 1998; Sensky et al., 2000). Shortcomings in the CBT literature to date include a paucity of studies focusing on effectiveness issues, inpatient samples, and group interventions.

Emerging findings suggest that the incorporation of mindfulness-based techniques can be effective in reducing rehospitalization rates for this population (Bach & Hayes, 2002). CBT techniques traditionally have been focused on the active disputation and modification of dysfunctional beliefs to decrease their frequency, intensity, and believability. Newer mindfulness/acceptance-based approaches, such as Acceptance and Commitment Therapy (ACT), target psychotic symptoms without directly seeking to change their content. The ACT model proposes that psychopathology arises from “fusion” with cognitions and resultant experiential avoidance that hinders goal attainment. Patients are taught to abandon control-oriented strategies and instead to experience private events (e.g., uncomfortable thoughts, feelings, and sensations) as such, without necessarily changing their content or “buying into” their literal truth. This stance is achieved primarily through the use of mindfulness exercises and is presented in the context of goal-setting, values clarification, and overt behavior change (Hayes, et al., 1999).

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[6] Adapted from the treatment manual by Hayes et al. (1999) and Bach and Hayes (2002).

Some suggest that mindfulness-based CBT may have specific advantages over disputation-based CBT (Teasdale et al., 2002). Furthermore, researchers have warned that when using CBT with patients experiencing psychosis it is important first to build a strong therapeutic alliance, and then keep disputation to a minimum when engaging in cognitive restructuring (i.e., identifying and modifying distortions in thinking) (Kingdon & Turkington, 1994). Providing some empirical support for this suggestion, Milton et al. (1978) found that the use of disputation techniques resulted in poorer treatment outcome. However with mindfulness-based CBT, the emphasis is not on disputing the literal content or validity of specific delusions or hallucinations, which can inadvertently result in alienating patients from treatment. Instead, patients practice experiential exercises to help them defuse from their thoughts, so that they no longer associate private events (e.g., thoughts, feelings, bodily sensations) with “reality.” Furthermore, patients are taught how to accomplish the goals that they set for themselves (according to their personal values) without getting side-tracked by psychotic symptoms.

II. Overview of Treatment

The treatment described below is based on guidelines developed by Hayes et al. (1999) and Bach & Hayes (2002). It is assumed that therapists have read these texts before conducting the treatment described below. The ACT sessions are meant to be delivered in a typical inpatient psychiatric setting. Therefore, the sessions are delivered in an “ongoing” format and patients can participate in the treatment as their stay dictates. Also, the treatment can be delivered in group or individual formats. Each 1-hour session contains a core set of components that permits patients to enter or leave treatment during their stay on the unit without difficulty. First, a psychoeducational component can be presented based on the patients’ relevant symptoms. Then, the ACT model is presented to provide a rationale for treatment. Next, various mindfulness and acceptance exercises are practiced to help patients move away from attempts to avoid and catastrophize symptoms. Instead, patients are taught ways of accepting and experiencing symptoms without allowing them to interfere with goal-directed behavior. In this way, patients decrease their tendency to interpret psychotic symptoms as representing reality, similar to in other CBT approaches. Next, goals and valued behaviors are elicited from patients, and the role of disturbing thoughts/emotions as barriers to goal attainment is discussed. Each session ends with a review and suggestions for practice exercises to attempt between sessions. Because of the possible cognitive limitations of patients with psychotic disorders, therapists should rely mainly on analogies and experiential exercises to explain the concepts and refrain from over-intellectualizing the discussion. Furthermore, although specific mindfulness metaphors and exercises are identified below, they can be substituted for others that address similar themes. Metaphors that resonate with patients in a particular session can be used more frequently if appropriate. If time is an issue, spend less time on the psycho-educational piece but integrate it into the discussion of other topics. Finally, it is important that therapists present ACT terminology and concepts in a manner appropriate for the particular patient being treated.

III. Outline of Sessions

A. Session A

1. Review homework. Some patients will be new to the treatment while others will have had previous sessions. At the start of each session, some time (approximately 5 minutes) should be spent eliciting feedback from patients who attempted practice exercises between sessions. Compliance with homework should be encouraged but noncompliance should only be noted. A punitive stance should not be taken with those who do not complete the assignments. Reviewing homework provides an introduction to new patients if conducted in a group format, sets the tone, and highlights potential successes the other patients have achieved. Previously, patients were asked to practice using the FEAR and ACT algorithm cards (see Session D). Solicit feedback about the exercise, stressing the importance of practice and behavioral consistency.

2. Psychoeducation. Frank and open discussion of patients' symptoms can help to normalize their experience. Also, educating patients about the nature of their symptoms can help them to develop a broader perspective on their experiences, so that they attribute them less as personal faults or weaknesses. How buying into psychotic symptoms impedes goal attainment should be emphasized throughout the discussion.

Hallucinations are seeing, hearing, smelling, or feeling things that others can't see, hear, smell or feel. Dreams are like daily "hallucinations." Hallucinations can take "scary" forms and keep patients from doing what they set out to do. For example, they may be distracted and have difficulty focusing during session because they hear voices that other members don't. Delusions make it difficult for patients to separate thoughts from reality. They are beliefs that most other people do not hold. Such beliefs also can keep people from doing the things they want to do. For example, someone afraid that others are trying to hurt them may be unwilling to go to work. Thoughts may or may not be true. For example, everybody used to believe that the earth was flat. However, even if everyone on the world believed the earth was flat, it didn't make it so.

3. The ACT model. Explore previous approaches to coping with symptoms of psychosis. Discuss the futility of attempts to control unwanted thoughts. Describe the Polygraph Metaphor (pp. 123-124)[7]. This metaphor illustrates the futility of trying to control internal states. Introduce the concepts of acceptance and willingness. Willingness is an action not a feeling. It is experiencing something as it is, not as what it says it is. Discuss the option of just noticing thoughts rather than believing and acting on them as an alterative coping strategy that patients may not have explored up to this point.

4. Mindfulness exercise. Conduct the Clouds in the Sky Exercise (also, Soldiers in the Parade Exercise, pp. 159-160). This helps clients practice experiencing thoughts and emotions as such, while developing stable sense of self.

5. Values and goals. Values are what we want our lives to stand for. Values are not feelings but choices. Everyone possesses the ability to define a life direction. Elicit values from patients in areas such as intimate relationships, family relations, social relations, employment, education and training, recreation, spirituality, heath, etc. For example, "I value…being a supportive parent to my children." Help patients separate

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[7] Page numbers listed correspond to Hayes et al. (1999).

what they value from what they believe they can accomplish. In other words, help patients to separate their values from perceived obstacles.

Goals are the concrete steps we take to work on values. They are like each step you take on a long journey. In contrast, values are abstract ideals that can never be fully attained. Elicit example goals that patients formulate based on their values. Introduce the concept that working toward something is the definition of success. Success is not necessarily the final result of that action. In other words, make the process the goal. Describe the Skiing Metaphor (pp. 220-221). This illustrates how most of the reward is often in the process.

6. Review session. This population often possesses various types of cognitive limitations that may make it more difficult for them to understand and retain the information presented in sessions. Therefore, it is important to highlight the important "take home messages" that were covered. The use of a whiteboard can enhance this process. Highlight the key concepts covered in the session, including the nature of psychotic symptoms, the negative effects of control, acceptance as an alternative, and the process as the goal.

7. Assign homework. Discuss with patients the importance of practicing the concepts covered between sessions. Stress that many of the things presented are skills, like riding a bike that can only be improved through practice. Stress that the process is the only outcome that they should seek, and simply attempting the assignment should be considered the "success." Tell patients if they run into any problems that they should note them and report on them at the beginning of the following session. Suggest that patients practice the Clouds in the Sky Exercise twice daily for 5 to 10 minutes each.

B. Session B

1. Review homework. Instruct patients that it was perfectly normal if their minds wandered during the exercise. Tell them that if their mind wanders a thousand times, their only job is to bring it back a thousand times. If they report that they became frustrated with the exercise or saw scary images, ask them if they are able to put that thought on a cloud and allow it to float by.

2. Psychoeducation. It is important for patients to understand that psychotic symptoms reside on the continuum of "normal" experience. Many people experience psychotic symptoms at some point in their life and they can be caused in virtually anyone through sleep deprivation, sensory deprivation, certain drugs, or medical complications. In some ways they can be viewed as the mind's misinterpretations. For example, ask patients to relate to the experience of a child seeing shapes in the dark and being scared. Also, many adults are superstitious or believe in supernatural powers. It is not the symptoms per se that are the problem, but if they interfere with the person's ability to pursue valued goals.

3. The ACT model. Introduce the concept of workability. Elicit specific symptoms in detail and how distressing they are. Discuss how trying to control symptoms has or has not worked in the past. If it did seem to work, for how long? Describe Tug of War with a Monster Metaphor (p. 109). This illustrates how trying to control the problem often only makes it worse. Discuss "letting go" of the struggle with private events by "dropping the rope." Encourage patients to accept their symptoms as an experience even though they may not like them. Clarify that they are not to accept

what the symptoms necessarily represent themselves to be but simply their experience of them.

4. Mindfulness exercise. Conduct the Contents on Cards Exercise (p. 162). Provide patients with index cards and have them write on them their most distressing thoughts, feelings, or symptoms. Have them carry their cards with them while they perform an activity such as a role play (e.g., talking to their doctor). Have clients carry the cards with them until the next session for homework.

5. Values and goals. Review the concepts of values and goals. Elicit examples from patients. Sometimes patients have difficulty with commitment toward valued goals. Describe the Gardening Metaphor (p. 220). This illustrates staying the course in the face of uncertainty.

6. Review session. Highlight the key concepts of the session, including the continuum of "normal" experience, the concept of workability as the guide, the ability to take action despite uncomfortable symptoms, and commitment toward goals.

7. Assign homework. Have patients practice carrying their index cards with distressing content on them with them as they do their daily activities. Ask them to bring the cards to the next session.

C. Session C

1. Review homework. Ask patients to produce their content cards. Note any changes in reaction that patients have to the cards. Solicit feedback about the exercise.

2. Psychoeducation. Discuss how life events affect symptoms. Discuss the diathesis-stress model of psychosis, suggesting a vulnerability that is triggered by stress in some people. Contrast this with the previous discussion of psychosis being on the

continuum of “normal” experience that can be induced by “everyday stressors” such as sleep deprivation. Help clients to identify potential stressors that will be occurring in the near future and how they can respond to them.

3. The ACT model. Introduce the difference between “dirty” versus “clean” discomfort. Clean discomfort is distress that is produced because of the actual stressor. Dirty discomfort is when one is distressed about being distressed. Dirty discomfort comes from unwillingness. Elicit examples from patients. For example, hallucinations or delusions are distressing; however, much of the negative effects of these symptoms come from being distressed about having them in the first place. Discuss letting go of the struggle as an alternate strategy that does not add dirty discomfort.

4. Mindfulness exercise. Conduct the “I Can’t Do This” Exercise. In this exercise, patients are asked to say something that they “can’t” do aloud repeatedly while doing it. This illustrates how patients can accomplish goals even though their minds/hallucinations say they can’t.

5. Values and goals. Review the concepts of values and goals. Elicit examples from patients. Describe the Path Up the Mountain Metaphor (p. 222). This illustrates how to remain committed to goals and look at “success” from a broader perspective.

6. Review session. Highlight the important concepts covered, including how stress impacts symptoms, dirty versus clean discomfort, how thoughts and words affect our behavior, and commitment in the face of uncertainty.

7. Assign homework. Ask patients do define one goal each day that they attempt even if their “minds” tell them they can’t do it. The goal does not have to be something big, just as long as it is consistent with their values.

D. Session D

1. Review homework. Review the homework exercise of completing a mini-goal patients set for themselves even if their minds told them they couldn't do it.

2. Psychoeducation. Discuss medication compliance as an issue of workability that allows other goals to be pursued. Elicit obstacles to medication compliance and discuss unwelcome side effects. Describe and elicit examples of the benefits of medication.

3. The ACT model. Discuss the concept of self as being different from thoughts and feelings by describing the Chessboard Metaphor (p. 190). Use an actual chess/checkers board and items to represent mental content. This helps patients to separate their stable sense of self from their experience.

4. Mindfulness exercise. Give patients the FEAR and ACT algorithm cards (p. 245). Help patients to identify when they are acting out of Fusion with thoughts, Evaluation of experience, Avoidance of experience, and Reason giving for behavior and instead to Accept reactions and be present, Choose a valued direction, and Take action. Elicit examples from patients.

5. Values and goals. Review values and goals. Elicit examples from patients. Discuss how obstacles can impede goal attainment. The Swamp Metaphor (p. 248) can be alluded to here if appropriate. This illustrates that patients are willing to experience distress because it is in the service of something they value.

6. Review session. Review the central themes of the session, including the importance of medication compliance, the difference between self and thoughts, and how to deal with obstacles in the pursuit of goal attainment.

7. Assign homework. Ask patients to practice using the FEAR and ACT algorithms.

IV. Therapist Considerations

Although ACT shares many similarities with traditional CBT approaches (e.g., present-focused, collaborative, time-limited, focused on definable goals, etc.), it also has differences. For example, therapists are asked to be just as "willing" as patients to experience uncomfortable private events. If patients discuss distressing symptoms they are having, most therapists do what they can to "fix" them. However in ACT, the focus is not at the level of content. Therapists encourage patients to practice "sitting with" discomfort and to focus instead on changing the patient's relationship to their experience, not the experience itself.

Also, ACT therapists must be careful not to "push" values upon patients. Patients are assumed to be fully capable of defining their own values and goals. The principle tenet of ACT is functionality and workability. It is the therapist's job to help patients separate their values from the perceived obstacles that impede their progress. Often, patients change their values based on their obstacles. In ACT, patients are encouraged to define their values, work toward them, and work through any obstacles.

Finally, ACT is not an intellectual enterprise, it is an experiential one. Therapists must be careful not to fall into the trap of trying to convince patients, as can be the pitfall of other cognitive approaches. Most importantly, therapists should present an accepting stance in the face of uncertainty, confusion, distress, and disagreement.

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