Original Research

Effectiveness of Cognitive Behavioral Therapy with Asian American Patients in an Acute Psychiatric Partial Hospital Program

Jennifer Tang, PhD;[1,2]* Chieh Li, EdD;[1] Rachel Rogers, PhD;[1,3] Mary Ballou, PhD[1]

[1] *Department of Applied Psychology, Northeastern University, Boston, MA*
[2] *Cypress Counseling Center, Ann Arbor, MI*
[3] *Laboratoire de Stress Traumatique, Université Paul Sabatier, Toulouse, France*

Previous studies have suggested that Cognitive-Behavioral Therapy (CBT) would be a compatible treatment for Asian mental health patients; however, there is a dearth of empirical research on the use of CBT in clinical treatment. This is the first study that examined the effectiveness of CBT on the psychiatric symptom severity of depression, anxiety, psychological well-being, and quality of life for Asian American patients in naturalistic settings. Fourteen males and 29 females, ages 18 to 40, received intensive CBT treatment in an acute psychiatric partial hospital. The Behavior and Symptom Identification Scale-24 (BASIS-24) was used to assess functioning level, the Center for the Epidemiological Studies of Depression-10 (CESD-10) was used to measure depression, the Penn State Worry Questionnaire-Abbreviated (PSWQ-A) was used to measure anxiety level, and the Schwartz Outcome Scale (SOS) was used to assess overall psychological health at pre- and post-test. Repeated measure t-tests were performed to examine change in symptom severity and overall psychological health from pre to post-CBT treatment. Results revealed significant decreases in levels of depression and anxiety symptom and increases in psychological well-being and overall functioning level after treatment (all ps < .001). Thus, the findings provided support for the effectiveness of CBT as a treatment for Asian American patients within an acute psychiatric partial hospital.

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INTRODUCTION

Cognitive-Behavioral Therapy (CBT) is one of the most widely studied empirically supported treatments (ESTs), with over 150 clinical trials conducted investigating the use of CBT in the treatment of issues ranging from mood and affective disorders such as depression and anxiety, to substance abuse and gambling addiction, Tourette's syndrome, and several other conditions.[1] Unfortunately, studies assessing these treatments with ethnic minority mental health patients are lacking, despite the large and growing population of ethnic minorities in the United States.[2] As of 2013, the US Census Bureau reported that ethnic minorities made up almost 40% of the overall United States population. In particular, the Asian population is the fastest growing ethnic group in the United States, increasing by 46% between the years of 2000 and 2010.[3] In addition, the Asian population is projected to have the largest population increase of 213% by 2025, rising from 10.7 million to an estimated 33.5 million.[3]

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***Corresponding Author:** 3135 S. State St., #203, Ann Arbor, MI 48103. Tel: 734-369-3180. Fax: 734-369-3136. (Email: jennifertang@cypresscc.com)

Mental disorders, including depression and anxiety, affect a significant proportion of Asian Americans, both US born and non-US born.[4,5] Furthermore, it has been suggested that among Asian Americans, mental disorders tend to be persistent, and may have a poorer prognosis.[4] Despite this, the US Department of Health and Human Services[2] points to the fact that the majority of treatment studies have only focused on White populations, resulting in a lack of knowledge about the usefulness of established treatments for ethnic minority populations. Thus, there is an increasing need to establish the effectiveness of existing front-line treatments for mental disorders among Asian Americans.

The current psychological literature has suggested that CBT, compared with other traditional western psychotherapies, is likely a suitable fit for psychological treatment for Asian-American patients based on the compatibility of CBT with certain Asian cultural values (e.g., emphasis on education and self-improvement, defer to the therapist to be the expert) being and treatment preferences (e.g., problem-solving).[6,7,8] CBT, generally short-term, directive, problem-focused, and action-oriented, is culturally congruent with the expectations

of therapy of many Asian American clients.[9] Thus, CBT has a high potential to constitute a successful treatment among Asian Americans.

Although there is growing conceptual literature regarding the compatibility of CBT with Asian values and expectations of treatment, there is a scarcity of empirical studies assessing the effectiveness of CBT treatment with Asian mental health patients.[10] Horrell[11] conducted a literature search for studies that explored the effectiveness of CBT interventions with ethnic minority adults from 1950 to 2006. She only found 12 studies that examined CBT effectiveness among African, Asian, or Latino American adults. Of the 12 studies only seven included Asian American patients, with limited sample sizes ranging from 4 to 40 patients. Therefore, studies providing empirical support for the use of CBT among ethnic minority populations, and more specifically Asian Americans are lacking, and constitute an important gap in the literature.

While the extant literature has sometimes focused on community samples as opposed to clinical populations,[12] few studies have included participants from outpatient facilities, including studies conducted in other countries such as Japan,[13] Canada,[10] and Hong Kong.[14] To date, no studies focusing on the effectiveness of CBT among Asian American patients in intensive clinical settings exist. The goal of this study was, therefore, to extend the current literature by evaluating the effectiveness of CBT among Asian American patients in an acute psychiatric partial hospital setting. Partial hospitals provide a higher level of care compared to outpatient treatment for patients who experience more severe and chronic psychiatric symptoms.[15]

Additionally, most of the existing CBT research has employed randomized controlled designs within confined ideal research settings. Although these controlled trials are helpful in identifying treatment efficacy, there is still a need for more research on CBT in naturalistic settings to explore treatment effectiveness.[16] The current study is aimed to add to the research literature on the usefulness of CBT among Asian Americans by measuring treatment effectiveness among mental health patients in an acute psychiatric partial hospital.

Previous empirical studies with Asian patients have purposefully recruited Asian patients for CBT treatment[12,17,18] or were conducted in Asian nations such as Japan[13] and Hong Kong.[14] Thus, in these studies, the Asian patients were receiving treatment alongside other Asian patients and often from Asian clinical mental health providers. These factors may have positively influenced treatment outcomes, as some Asian Americans have reported feeling more relaxed, more willing to disclose personal information, and better understood by other Asian Americans rather than individuals from a different ethnic group.[19] In the US, however, many Asian Americans seeking treatment are likely to receive it in mixed-ethnicity settings, without the benefits of culturally similar environment. Thus, studies examining the effectiveness of CBT in mixed-ethnicity settings are warranted. The present naturalistic study responded to this need by exploring the use of CBT within a private hospital's partial hospitalization program, to which ethnically diverse patients are referred for treatment either as a step-down from inpatient hospitalization or referred from an outpatient provider to have more intensive treatment.

Our research question was "Is CBT effective for Asian-American patients in a) increasing functioning level, b) increasing psychological health, c) decreasing depression, and d) decreasing anxiety? Based on the literature, we expect CBT to be effective for Asian-American patients in all aspects from a) to d).

METHODS

Participants

The sample included adult patients at the Partial Hospitalization Program (PHP), affiliated with a private psychiatric hospital in New England. Adult patients, over the age of 18 years old, were referred for partial hospitalization treatment from psychiatric inpatient units, other hospital-based or residential programs, and mental health providers in the community; some patients were referred as a step down from inpatient hospitalization, while others were referred from outpatient treatment providers for an increased level of care. All of the participants had, at the minimum, graduated high school or received a General Educational Development (GED). Patients attended the partial program for 7-10 days. A total of 1,448 adults received treatment at the PHP during the study period (August 2011 to August 2013). All treatment data was collected into a PHP dataset.

Inclusion criteria for the current study were 1) being a patient admitted to the PHP, and 2) identifying race as "Asian" in the demographics survey completed upon program admission. The sample included 51 Asian patients, 43 of whom completed the treatment outcome measures at both the beginning and end of CBT treatment at the PHP. Among the Asian patients, there were a total of 14 males and 29 females, ranging in age from 18 to 40 with a mean age of 30 years old.

Setting

The PHP is a treatment facility within a psychiatric campus hospital in New England. At the time of the study, the majority of the PHP staff was of Caucasian descent. One mental health counselor, one practicum trainee, and one pre-doctoral intern were Asian-Americans.

The treatment at the PHP utilizes cognitive behavioral therapy (CBT) principles and interventions that are adapted to the unique challenges faced in an acute naturalistic partial hospital setting in the US.[20] The entire treatment is conducted in English. Thus, patients referred for treatment are required to possess a sufficient degree of English proficiency. Patients are assessed upon admission by a psychiatrist and a clinical team manager (a licensed psychologist or social worker) and Axis I diagnoses are conferred using the *Mini-International Neuropsychiatric Interview*.[21]

Treatment

Treatment focuses on the acquisition of cognitive (e.g., thought records, cognitive restructuring) and behavioral (e.g., behavioral scheduling, exposure) strategies. The patients learn CBT coping skills, such as reviewing and challenging cognitive distortions, changing problematic behavior through behavioral activation, and using mindfulness, relaxation, and distress tolerance techniques through daily group therapy sessions as well as individually catered CBT treatment. Patients practice the skills during individual sessions with their clinical liaison.

Each patient is assigned a clinical team manager, a clinical liaison, and a psychiatrist. During the course of treatment, patients receive both individual and group CBT provided by PHP staff including psychiatrists, psychologists, social workers, occupational therapists, psychology trainees at the pre-doctoral and practicum levels, and mental health counselors.

Patients are expected to attend five, 45 to 50-minute skills-focused groups each day, from 9am to 3pm, five days of the week, unless they have an individual meeting with a clinician. The groups are generally didactic in nature, and the group leader presents information and teaches specific CBT skills for the patients to practice and use in their treatment. For example, the "Mood Monitor" group teaches how to use the CBT skill of cognitive restructuring in order to challenge automatic maladaptive thoughts with potential alternative thoughts; the "Behavioral Scheduling" group emphasizes the importance of behavioral activation, to increase structured time and more balanced types of activities, including self-care, mastery tasks, social, as well as pleasurable activities. Additionally, some groups are psychoeducational in nature, and review symptoms that commonly occur for various psychological diagnoses.

Participants attend the PHP for 7-10 days of treatment on average, and the case manager determines when the patient is ready for discharge. As part of treatment, the patients meet individually with their clinical liaison for 30-50 minutes, 3 times per week. The clinical liaison meetings aim to review and practice skills learned in groups. Additionally, the patients are assigned a psychiatrist for medication management and potential medication adjustment. The psychiatrists meet with the patients for 15-30 minutes, 2-3 times per week or as needed. The psychiatrists work closely with all other team members in order to provide medically relevant input that may guide clinical decision-making.

Procedure

The participants in this study were part of a larger sample of patients in treatment at the PHP. Once consent was obtained, each participant was assigned a number code, so that all data within the dataset was anonymous. Before receiving any form of treatment, patients completed a demographics survey as well as a series of questionnaires, which were also administered at termination before the patient was discharged; the measures assessed for depression, anxiety, psychological well-being, treatment credibility and expectancies. All assessments were completed using a computer program. Analyses were conducted using the Statistical Program for the Social Sciences 19 (SPSS).

Measures

Multiple measures were used to evaluate the outcome of the treatment, including measures of general functioning, depression, anxiety, and overall psychological health. In addition, self-report demographic information was obtained.

Demographics Questionnaire

The initial demographic survey, at the time of treatment admission, included 15 questions about age, gender, race, education, employment or student status, living situation, marital status, previous psychiatric hospitalization history, and physical health.

Behavior and Symptom Identification Scale (BASIS-24)

The BASIS-24[22] consists of six subscales which assess symptoms over the past week in six areas: (1) Depression and Functioning (e.g., "Feel sad or depressed?"; "Coping with problems in your life"), (2) Interpersonal Problems ("Get along in social situations?"), (3) Self-Harm ("Think about ending your life?"), (4) Emotional Lability ("Have mood swings?"), (5) Psychosis ("Hear voices or see things?"), and (6) Substance Abuse/Dependence ("Did you have an urge to drink alcohol or take street drugs?"). Respondents rate items on a 5-point Likert scale regarding either level of difficulty experienced (0 = "no difficulty" to 4 = "extreme difficulty") or frequency (0 = "None of the Time" to 4 = "All of the Time"). Subscales range from 0-8 for self-harm to 0-24 for depression/functioning and total scores reflect overall functioning, with higher scores indicating worse functioning and symptom severity.[22] The measure has been found to have high reliability and validity, with standardized internal consistency reliability coefficients above .70 for all subscales, ranging from 0.75 to 0.89 for inpatients and from 0.77 to 0.91 for outpatients. Test-retest reliability coefficients have ranged from 0.81 to 0.96 for inpatients and from 0.89 to 0.96 for outpatients.[23] For Asian Americans in the present study, the internal reliability was $\alpha = .88$ at both T1 (Time1) and T2 (Time2).

Center for the Epidemiological Studies of Depression-10 (CESD-10)

The CESD-10[24] is a widely used brief instrument for measuring symptoms of depression in both clinical and research settings. The 10-item scale detects symptoms of depression experienced over the past week (e.g., "I felt depressed" or "I felt lonely"). Responses are given on a 4-point ordinal scale, ranging from 0 = "rarely or none of the time" to 3 = "most or all of the time" (5-7 days). The higher the overall score, the higher depressive symptom severity endorsed. The reliability of the CESD is consistently above $\alpha = .80$ and the validity has been measured using other well-established and commonly used measures of depression, such as the Beck Depression Inventory[25] The CESD-10 has been proven to be reliable and valid in screening for depression in

adults and adolescents in clinical as well as community settings.[26,27] In the present study, the internal reliability was α = .89 at T1, and α = .86 at T2.

Penn State Worry Questionnaire-Abbreviated (PSWQ-A)
The PSWQ-A[28] is one of the most widely used measures of worry and generalized anxiety disorder (GAD). The PSWQ-A was derived from Meyer, Miller, Metzger, & Borkovec's[29] original 16-item instrument, which has been commonly used in treatment outcome studies of GAD.[30,31,32] The PSWQ-A is a reliable and well-validated, single factor, 8-item self-report measure designed to assess worry severity. The eight items on the PSWQ-A consist of statements about worry (e.g., "My worries overwhelm me") that the responders rate on a 5-point Likert scale ranging from 1 = "Not at all typical of me" to 5 = "Very typical of me". Total scores range from 8 to 40, with higher scores indicating higher levels of worry. The internal consistency reliability was found to be high for younger and older adults (Cronbach's α = 0.89 - 0.94) and a test-retest reliability of r = 0.87 - 0.95. Moderate to strong convergent validity with measures of worry and anxiety was also evident (r = 0.46 - 0.83) as well as support for the construct validity of the PSWQ-A through its relation to the original PSWQ (r = 0.65 - 0.83).[28] In the present study, internal reliability was α = .95 at T1 and α = .94 at T2.

Schwartz Outcome Scale (SOS)
The SOS[33] is a well-validated and reliable, single factor, 10-item self-report measure designed to examine a broad domain of psychological health in a variety of settings.[34] Each item evaluates quality of life and psychological well-being over the past week, and is scored on a 7 point scale ranging from 0 = "Never" to 6 = "All or nearly all of the time", (e.g., "I feel hopeful about my future"; or "I am able to handle conflicts with others"). Total scores range from 0 to 60, with higher scores indicating better psychological health. The internal reliability has been reported to be high (α = 0.96), and has the convergent validity with self-esteem and well-being.[33] In the present study, internal reliability was α = .94 at both T1 and T2.

Data Analysis
Participants who did not complete the entire measures post-treatment were omitted. If only one item had been missed on a measure, then it was substituted with the average score of the non-missing items. Prior to running statistical analyses, normality was tested for the dependent variables using the Shapiro-Wilk test of normality. The BASIS-24, CESD-10, and PSWQ-A were transformed by square root to improve normality. T-tests for within group repeated measures were performed to examine changes in symptom severity and overall psychological health pre and post-CBT treatment. The alpha-level was set to .05.

RESULTS
A significant improvement in scores from pre- to post-test was observed in all measures (see **Table 1**), including overall behavioral symptoms, depression, anxiety, and psychological health.

Table 1. Symptom Severity Level before and after Treatment.*

	Mean	SD	df	t	p
Behavioral Symptoms					
T1	27.19	11.72	42	6.37	.000
T2	17.19	8.88			
Depression					
T1	15.07	8.19	42	6.35	.000
T2	8.53	5.16			
Anxiety					
T1	27.53	9.93	42	5.49	.000
T2	22.67	8.85			
Psychological Health					
T1	25.77	14.38	42	-5.56	.000
T2	37.02	13.29			

* Note: T1 = Time 1 (before Treatment); T2 = Time 2 (after Treatment).

Overall Reduction of Behavioral Symptoms
A repeated measures t-test revealed a significant increase in BASIS-24 scores from pre- to post-test indicating improvements in overall reduction of behavioral symptoms among Asian-American patients after CBT treatment (M = 17.19, SD = 8.88 in post-test versus M = 27.19, SD = 11.72 in pre-test; t(42) = 6.37, p = .000).

Depression
A repeated measures t-test revealed a significant decrease in CESD-10 scores from pre- to post-test indicating that the Asian American participants on average reported lower levels of depression symptoms by the end of treatment (M = 8.53, SD = 5.16) than prior to starting at the PHP (M = 15.07, SD = 8.19). This difference was statistically significant, t(42) = 6.35, p = .000.

Anxiety
A repeated measures t-test revealed a significant decrease in PSWQ-A scores from pre- to post-test indicating that the Asian American patients at the PHP decreased anxiety by the end of treatment. There was a significant difference in the scores from T1 (M = 27.53, SD = 9.93) to T2 (M = 22.67, SD = 8.85), t(42) = 5.49, p = .000.

Psychological Health
A repeated measures t-test revealed a significant increase in SOS scores from pre- to post-test indicating that the Asian-American patients' had improved psychological health after receiving CBT treatment at the PHP (M = 37.02, SD = 13.29) than prior to the start of treatment (M = 25.77, SD = 14.38), t(42) = 5.56, p < .001.

DISCUSSION
Results from the current study indicate that receiving CBT treatment in an acute psychiatric partial hospital was associated with significant reduction in psychiatric symptom severity levels across multiple domains, including depression, anxiety, and behavioral problems, and improvement of overall psychological well-being among Asian-American patients. Findings from this study suggest that CBT treatment in a short-term partial hospital setting (which is directive in nature, focusing on learning practical coping skills, and

identifying and changing maladaptive thoughts and behaviors) is effective in helping the overall psychological functioning and mental well-being of Asian-American patients suffering from a range of psychiatric symptoms.

These findings supplement and parallel the extensive clinical outcome studies that have supported the efficacy of CBT in treating a range of psychological symptoms (e.g., see Hollon and Ponniah, 2010[35] for a review of EST for mood disorders). The results also support the preliminary findings from the limited, but growing number of empirical studies supporting the efficacy of CBT treatments for patients with Asian cultural backgrounds suffering from depression,[14,36] social anxiety,[13] and post-traumatic stress disorder (PTSD).[17,18] A possible contributing factor might be that CBT aligns with Asian-American patients' expectations of therapy (e.g., problem-solving) as well as traditional Asian cultural values (e.g., emphasis on education and self-improvement, defer to the therapist to be the expert).[37]

Additionally, partial hospital programs are a growing treatment option particularly among patients with severe and chronic symptoms or experiencing acute symptom intensification.[15] On the continuum of clinical care, it is a step up from a traditional one-hour per week outpatient treatment and step before intensive 24-hour inpatient hospital level of care. In a preliminary study,[38] CBT treatment delivered in a partial hospital setting was found to have promising results in symptom reduction, however, further research is still necessary. The current study further contributes to the growing literature on the effectiveness of CBT in reducing symptoms among patients at a partial hospital level of care.

Although CBT is the most widely used and empirically supported treatment for a range of diagnoses and symptoms, few studies have evaluated its effectiveness among racial minority patients in the United States.[11] The current study supplements the dearth of empirical studies on treatment outcomes for Asian-American patients and expands the usefulness of CBT to patients with more severe, acute, as well as chronic psychiatric symptoms such as those in a psychiatric partial hospital.

In this naturalistic study, the majority of the staff and patients were from White, Non-Hispanic backgrounds. Therefore, the current study adds to the literature on CBT with Asian Americans, in that unlike previous studies, this study does not have the possible confounding factor of feeling understood by fellow Asian patients or providers[19] that influences symptom reduction.

It is also necessary to take the limitations of the present study into consideration. First, the partial program is run entirely in English, which meant that all the Asian-American patients in this study needed to have a working knowledge of the English spoken and written language, and those with more limited capacities were excluded. All the measures used were only available in English, and there were no versions in other languages. Therefore, this study does not provide any evidence for the usefulness of CBT treatment among Asian Americans with a more limited proficiency in English.

Second, the measures used in this study, like majority of the measures in the field, were developed and standardized primarily among Caucasian participants, not culturally validated for Asian American participants. Unfortunately, there have been no studies on cultural validity of frequently used measures such as the ones in this study for Asian Americans. Thus future studies on cross-cultural validity of these measures are necessary.

Another limitation is the constraints of the dataset. Inclusion in this study only required that the Asian-American patients had self-identified their race to be "Asian." The Asian racial group is extremely diverse. There are over 43 ethnic groups, and differing histories, languages, religions, beliefs, and values.[9] There are also individual differences that were not accounted for in this study, including potential differences in acculturation, immigration status (e.g., first or second generation), and English language proficiency. The dataset did not provide information on the patients' acculturation level and the degree to which they understood the tests and the therapists. Due to these limitations, the current study cannot provide specific information on how effective CBT is with differing cultural/acculturation characteristics among Asian Americans. Further research should include the aforementioned English language proficiency and acculturation information.

Despite these limitations, the current study extends previous efficacy studies on the use of CBT. The findings add to the literature that have indicated the efficacy of CBT in controlled research settings, as well as suggesting treatment effectiveness can be generalized to naturalistic "real world" settings. Moreover, this study is the first of its kind in evaluating Asian American patients receiving CBT treatment in an intensive psychiatric partial hospital. These findings support the previous literature that has found CBT treatment helps to reduce anxiety and depressive symptoms as well as improve overall functioning level and psychological wellbeing. The current study particularly adds to the literature that CBT treatment is also effective among Asian-American patients with more acute, severe, and chronic symptoms.

CONFLICT OF INTEREST
None.

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