The effectiveness of cognitive behavioral group therapy in treating bipolar disorder: a randomized controlled study

A eficácia da terapia cognitivo-comportamental para o tratamento do transtorno bipolar: um estudo controlado e randomizado

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Abstract
Objective: Recent studies suggest that, when combined with pharmacotherapy, structured psychotherapy may modify the course of bipolar disorder. However, there are few studies that have examined the effects of cognitive behavioral group therapy on the course of this disorder. The aim of the present study was to evaluate the effectiveness of 14 sessions of cognitive behavioral group therapy, combined with pharmacotherapy, on the treatment of patients with bipolar disorder, and to compare our results against those from the use of pharmacotherapy alone.

Method: Forty-one patients with bipolar I and II disorder participated in the study and were randomly allocated to one of two treatment groups; thirty-seven patients remained in the study until its completion. Mood and anxiety symptoms were measured in all subjects. Statistical analysis was used to investigate if the groups differed with respect to demographic characteristics and the scores recorded in the pre- and post-treatment stages, as well as during treatment (intra/inter groups).

Results: Patients showed statistically similar population characteristics. The association of cognitive behavioral group therapy and pharmacological treatment proved to be effective. Patients who had undergone cognitive behavioral group therapy presented fewer symptoms of mania, depression and anxiety, as well as fewer and shorter mood change episodes.

Conclusion: Cognitive behavioral group therapy sessions substantially contributed to the improvement of depression symptoms.

Descriptors: Bipolar disorder; Cognitive therapy; Depression; Psychotherapy; Treatment outcome

Introduction
Bipolar disorder (BD) is one of the most prevalent and serious psychiatric disorders globally, affecting 1% to 3% of the world’s population.7 Accordingly, it has been the object of increased attention in the past few years.2-4 Individuals suffering from BD
often experience impairments in both their personal, (marital, family) and professional lives.\(^1\)

Even when the genetic, biological and psychopharmacological aspects involved in the treatment of symptoms of BD are considered, about 40% of bipolar patients do not respond well to lithium or other mood stabilizers.\(^2\) In spite of receiving the required medication dose, these patients remain free of relapses for a maximum of only two- to three-year follow-up periods.\(^3,4\) Moreover, growing evidence suggests that structured psychotherapy used in combination with pharmacotherapy may modify the course of BD.\(^4,5\)

Until a few years ago, it was widely believed that psychosocial approaches only served the purpose of improving pharmacologic adherence given that BD has a strong biological component. Nonetheless, the efficacy of psychotherapy in the treatment of this disorder is considerable.\(^3\) More recently, it has been demonstrated that psychosocial approaches also improve patients’ quality of life, and that better results can be attained in the treatment of depression compared to that of mania.\(^6\)

Cognitive behavioral therapy (CBT) used in conjunction with pharmacotherapy in BD patients can modify the course of the disease. Certain studies on the association between individual or group CBT and BD have reported improvements in mood and social functioning. Upon further investigation, it was discovered that such improvements were maintained at follow-up.\(^7-9\)

However, a recent study concluded that CBT is not likely to be an effective adjunctive therapy for the general population with recurrent non-rapid cycling BD,\(^10\) while other studies emphasize that CBT generated better results in the treatment of depression when compared to that of mania.\(^11\)

CBT strategies aim at managing and preventing cognitive, affective and behavioral symptoms associated with depressive or manic phases, and are conducted with the patient, as well as, sometimes, with his or her family’s active cooperation.\(^12\) Such strategies intend to reduce the negative impacts of BD in the psychosocial and interpersonal domains, thus improving the quality of life of individuals with BD.\(^13\)

CBT interventions for BD are intended to achieve the following: (1) educate the patient and his/her family about the treatment, as well as about the common difficulties associated with the disease; (2) teach them how to monitor manic or depressive symptoms using, for example, a mood chart, and to assess their severity; (3) promote compliance with pharmacological treatment (i.e., psycho-education and reality test of thoughts and beliefs; (4) provide subjects with psychological strategies, especially in terms of cognitive-behavioral skills, that will allow them to manage stress factors which, in turn, can interfere with treatment or bring on manic and/or depressive episodes (e.g., circadian rhythm control, daily thought records, social skills training, problem solving); and (5) reduce the trauma and stigma associated with the diagnosis.\(^14,15\)

The objective of this study is to evaluate the effectiveness of CBGT in BD cases. We tried to assess the effectiveness of 14 sessions of CBGT as a combined intervention used to control mood symptoms.

The study was approved by the Research Ethics Committee (Brazilian National Research Ethics Committee – protocol no. 07/06).

**Method**

1. **Inclusion and exclusion criteria**

Subjects were recruited from the Institute of Psychiatry of the Universidade Federal do Rio de Janeiro (Anxiety and Depression Program Outpatient Clinic). Their age ranged between 18 and 60 years, they met the DSM-IV criteria for BD I or II, and had experienced at least one hypomanic, manic or depressive episode in the previous 12 months. Subjects had been taking mood-stabilizing medication for a minimum of one month before the therapy was initiated.

Patients were eligible for inclusion if they were euthymic, mildly depressed or mildly hypomanic at the time of the initial assessment. They were excluded if they had a Beck Depression Inventory score ≥ 35 (BDI)\(^16\) and a Young Mania Rating Scale score ≥ 20 (YMS)\(^2\) or presented a comorbid personality disorder and/or any other axis I severe psychiatric disorder. This was established using the Structured Clinical Interview for DSM-IV-TR (SCID-I and II).\(^18\) Patients suffering from any severe physical illness and/or using alcohol or illicit drugs were referred to individual psychotherapy.

Patients who required the administration of a new mood stabilizer and/or a new antidepressant during the course of treatment were also excluded from the study.

2. **Subjects**

Forty-one subjects with BD I (n = 84% in each group) or II participated in the study. The number of subjects from each therapy group varied from 5 to 6. Only two subjects from each group did not answer any of the instruments of the scales. Two subjects from the control group and one from the CBGT group required hospitalization, and one from the CBGT group walked away because he preferred to go on individual therapy.

3. **Instruments**

Subjects were interviewed using the Structured Clinical Interview for DSM-IV (SCID-I and II).\(^19\)

Mood and anxiety symptoms were assessed in all subjects using the Beck Depression Inventory (BDI),\(^20\) the Young Mania Rating Scale (YMRS)\(^21\) and the Beck Anxiety Inventory (BAI).\(^22\)

The Beck Hopelessness Scale (BHS)\(^23\) was used for predicting suicidal ideation.

Weekly scores on the BDI and BAI were obtained for both groups. The YMRS was applied at three different moments in time i.e., at the beginning, the middle and at the end of treatment, whereas the BHS was applied only at the beginning and at the end of the study period.

4. **Treatment procedures**

Patients were randomly allocated to CBGT (n = 27) and to treatment as usual (TAU, n = 14). They were assessed before,
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during and after treatment, and up to 6 months post-treatment in terms of their levels of depression, mania and their quality of life scores.

1) Treatment as usual (TAU)

The TAU group attended sessions as prescribed by their respective psychiatrists, and did not attend any psychotherapy session. Doctors who had been trained on how to apply the tests assessed mood symptoms throughout the 14 weeks and at the 6-month follow up session.

2) CBGT

The protocol was administered by an experienced clinical psychologist. It consisted of 14 two-hour CBGT sessions which were divided into two stages: the first consisted of three sessions during which the therapist provided psychoeducation on BD, symptoms and medications to the patients and their families. In the second stage, patients learned CBT skills by means of specific behavioral and cognitive interventions. The CBGT protocol used in the present study was based on the treatment manual ‘Cognitive Behavioral Therapy for Bipolar Disorder’ by Basco and Rush.18

5. Statistical analysis

Pearson chi-square tests and ANOVA were performed to investigate if the control group and the CBGT group differed with respect to demographic characteristics and comorbid diagnoses. Paired-sample t-test and regression were used to test for differences among scores recorded at the pre-, during- and post-treatment stages, both within the same group and between groups. ANOVA was used to compare mean differences found in both groups at two moments in time i.e., pre and post-treatment, and a multiple regression analysis was performed so that we could understand how the value of the dependent variable changed when any of the independent variables changed while the other independent variables remained the same. The significance level was set at p < 0.05.

Results

Statistically speaking, patients shared similar population characteristics as seen in the demographic information presented in Table 1.

The groups did not present any significant difference in terms of their baseline scores on the BDI, BAI and YMRS scales. Table 2 shows the correlations between the clinical scores and the two groups before the first session. The clinical scores were categorized as subclinical, mild, moderate and severe depression/anxiety, and as subclinical, hypomania and mania.

On one hand, it is important to note that the average depression scores indicated the presence of mild depression in both groups. On the other hand, the scores on the YMRS pointed towards the presence of sub-clinical hypomanic/manic symptoms in the two groups. With respect to anxiety, subjects from the CBGT group presented average mild anxiety, whereas subjects from the TAU group presented sub-clinical anxiety. However, the number of patients with subclinical, mild, moderate or severe anxiety was not statistically different between the groups.

The scores of both groups at the beginning, middle and at the end of the treatment are shown in Table 3.

The graphs below indicate the variations in the anxiety and depression scores over a period of 14 weeks.

By initially examining the within-group results, one can say that there were no significant differences in the depression (BDI; p = 0.210) and anxiety scores (BAI; p = 0.234) among control group subjects over the fourteen weeks. The same was true for this group’s scores on manic symptoms (YMRS; p = 0.243) and hopelessness (BHS; p = 0.312). However, in the CBGT group, there was a significant difference over time in the depression (BDI; p = 0.000) and anxiety (BAI; p = 0.000) scores, which means that, in the course of those 14 weeks, scores fell. A significant fall was seen over the 14 weeks in the manic symptoms index scores (YMRS; p = 0.000) and between the initial and final scores on hopelessness (BHS; p = 0.000).

Regression analyses also showed favorable results for the CBGT group. Of all the variables included in the study, the only one that appeared to be significantly associated with reduced depression scores was the treatment group, thus favoring CBGT (R square = 0.909 / p = 0.002). Time point during the course of the study significantly predicted a change in anxiety scores for

<table>
<thead>
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<th>Table 1 - Demographic characteristics of subjects - statistically independent of group (n = 37)</th>
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<tbody>
<tr>
<td>Sex</td>
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<td>Women</td>
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<tr>
<td>Mean age (years ±SD)</td>
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<td>Marital status</td>
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<tr>
<td>Single</td>
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<tr>
<td>Level of education</td>
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<td>Primary school</td>
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<td>Incomplete high school or high school</td>
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<td>Incomplete university education or University education</td>
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<td>Psychiatric comorbidity</td>
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<td>No psychiatric comorbidity</td>
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<th>Table 2 - Baseline scores</th>
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<tr>
<td>Mean (SD)</td>
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<tr>
<td>Control group</td>
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<tr>
<td>(8.392)</td>
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<tr>
<td>CBGT</td>
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<tr>
<td>Total</td>
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<td>(9.068)</td>
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<td>ANOVA - sig</td>
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In another study, Patelis et al. showed that the inclusion of 14 sessions of CBGT to promote pharmacotherapy adherence had improved the functioning and quality of life of 38 bipolar patients. By the end of the treatment, scores had changed significantly in favour of the CBGT group. The group protocol derived from a combination of sources, including Basco and Rush and Newman.

In spite of the number of treatment sessions mentioned above, we are unable to compare results since subjective measures and follow-up varied widely between studies. Considering that the authors have acknowledged some of the limitations of their respective studies, our ability to interpret their results is rather limited. These limitations, which include the absence of a control group against which to compare the results from the experimental group and possible individual changes in medication that may account for the improvements seen in patients, can however be overcome in future studies.

Discussion

Unfortunately, to this date, only a few studies have investigated the efficacy of CBGT in BD patients. One such study compared results before and after CBT plus pharmacotherapy, and another study compared CBT plus pharmacotherapy versus pharmacotherapy alone. Neither study included a control group.

Palmer et al. evaluated the effectiveness of 17 weekly sessions of CBGT in six bipolar patients who were on maintenance mood stabilizers. Results showed that two patients experienced a significant improvement and that a third one showed a trend towards improved well-being. All patients showed improvements in social adjustment in pre- to post-test. In another study, Patelis et al. showed that the inclusion of 14 sessions of CBGT to promote pharmacotherapy adherence had improved the functioning and quality of life of 38 bipolar patients. By the end of the treatment, scores had changed significantly in favour of the CBGT group. The group protocol derived from a combination of sources, including Basco and Rush and Newman.

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Group therapy was well tolerated by all subjects, as evidenced by the fact that 92.59% of them remained in the program from beginning to end, thus corroborating the findings of Patelis-Siotis et al. The inclusion of CBGT as part of the pharmacological treatment was effective. After treatment, participants presented fewer manic,
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depressive and anxiety symptoms and a reduction in the frequency and duration of mood change episodes.

CBGT sessions were essential for the improvement of depressive symptoms, which supports the findings of Scott et al., Ball et al., and Reilly-Harrington et al., who investigated the efficacy of individual CBT.

Although the mania index scores did fall, in regression, the model did not prove to be functional. It is particularly important to note that subjects from both groups had low YMRS scores in the first assessment (i.e., pre-treatment) and were all medicated with mood stabilizers. This explains why we were less likely to see lower scores.

A limitation of this study is the exclusion of patients with severe mania or severe depression. Although there were no significant differences in baseline scores, subjects from the CBGT group had slightly higher mean raw anxiety, depression and mania scores after treatment compared to before treatment. This could lead to a less apparent reduction in symptoms in subjects from the control group. Furthermore, we did not conduct a reassessment to evaluate whether the patients had sustained the gains made during therapy. Another limitation of this study is its small sample size, especially that of the control group (n = 12). Nevertheless, we see the presence of a control group as a strength.

Conclusion

The inclusion of CBGT as part of the pharmacological treatment was effective. Patients receiving CBGT presented fewer symptoms of mania, depression and anxiety. Subjects from the CBGT group also experienced fewer and shorter mood change episodes. CBGT sessions were especially important for the improvement of depression symptoms.

Acknowledgements

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Disclosure

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