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BRIEF COMMUNICATION

Cognitive-behavioral group therapy for intermittent explosive disorder: description and preliminary analysis

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Objectives: To evaluate the efficacy of a group therapy based on cognitive-behavioral techniques customized for intermittent explosive disorder (IED). The current report presents the preliminary results of a clinical trial comparing pre- and post-intervention scores in different anger dimensions.
Methods: The studied sample consisted of 84 treatment-seeking subjects. The mean (standard deviation) age was 43.0 (11.9) years, and 78% were male. The therapeutic group program consisted of 15 weekly sessions plus three maintenance sessions. The sessions lasted approximately 90 minutes each.
Results: No differences were found in demographic profile and pre-treatment status between subjects who completed treatment (n=59) and dropouts (n=25). Comparison of State-Trait Anger Expression Scale (STAXI) scores pre- and post-treatment showed statistically significant changes in all anger scales and subscales of the questionnaire.
Conclusion: This preliminary report is a significant addition to currently scarce clinical data. Our findings provide further evidence that structured cognitive-behavioral group therapy, with a focus on anger management and cognitive coping, may be a promising approach to the treatment of IED.

Keywords: Violence/aggression; psychotherapy; group therapy; cognitive therapy; impulse control disorders

Introduction

Intermittent explosive disorder (IED) is a disorder characterized by anger outbursts that include destruction of property, and physical and verbal attacks.[1] This disorder is common, with a 12-month prevalence estimated between 3.1% and 3.9%.[2,3] IED is highly impairing due to legal, professional, and social difficulties.[1,3] In Brazil, it may be a relevant contributing factor to high rates of violence.[4] However, research in this area is scarce, especially regarding evidence-based interventions.[5]

Several psychotherapeutic approaches to anger management have been published in the literature.[5,6] However, they tend to be general strategies; i.e., there is an important gap on research specifically focusing on the management of IED.[5,6] Excessive anger has been associated with different diagnoses, such as major depressive disorder, anxiety disorders, bipolar disorder, antisocial personality disorder, and borderline personality disorder.[1] There is some clinical and biological overlap among these conditions associated with problematic aggression.[1,7] Nonetheless, some specific characteristics of IED have been suggested, such as: a) recurrent, brief, unplanned aggression episodes[1]; b) thought processes associated with perceived injustice[5]; c) very high levels of aggression[1,7]; and d) elevated impatience.[1,7] There is a need for customized treatments focused on specific diagnoses associated with maladaptive anger.[8] Tailored interventions might increase the efficacy of psychotherapy.

There has only been one published randomized controlled trial of psychotherapy for IED.[5] This study by McCloskey et al. compared 12 weeks of cognitive-behavioral therapy (CBT) delivered in a group format, CBT on an individual basis, or a wait-list control.[5] The results suggested that CBT for IED, either in group or individual format, was effective in reducing aggressive behavior. Group therapy may be particularly effective for IED, as it provides the opportunity to interact with others and practice social/assertive skills, a major issue in IED. Additionally, group therapy tends to be more cost-efficient, which is particularly important in developing countries such as Brazil.

Within this context, we conducted a clinical trial to evaluate the efficacy of a customized manualized group therapy for IED. The therapeutic program was based on cognitive-behavioral techniques and focused specifically on the clinical and neurocognitive characteristics of the disorder. The present report describes the preliminary results of this clinical trial, comparing pre- and post-intervention scores in different anger dimensions.

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Methods

Participants

The studied sample consisted of treatment-seeking subjects recruited from the Impulse Control Disorders Outpatient Unit, Institute of Psychiatry, Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo (HC-FMUSP), Brazil. Of the 84 individuals with IED recruited, 59 (70%) completed the intervention. The mean (standard deviation) age was 43.0 (11.9) years, and 78% were male. There was no control group for the study.

Treatment

The therapeutic program consisted of 15 weekly sessions plus three maintenance sessions (Table 1). The sessions, led by two psychologists, lasted approximately 90 minutes each. Patients initially underwent a psychiatric assessment for diagnostic confirmation. Co-occurring psychiatric

Table 1 Description of a CBT-based group program for intermittent explosive disorder

Week	Subject approach	Therapeutic objective
01	Presentation of the program (basic structure and rules) and baseline assessment.	Increase motivation and enhance adherence (to the process, meetings, homework, etc.).
02	Basic neurophysiology of anger and introduction to relaxation techniques.	Increase self-awareness of the angry state and understand the concept of triggers.
03	Relaxation techniques (e.g., diaphragmatic breathing) and introduction to automatic thoughts (ATs).	Provide resources to avoid/better cope with anger and enable initial recognition of ATs.
04	Further assessment of ATs and psycho-education on CBT.	Identify maladaptive ATs and understand that they may be modified.
05	Discussion of ATs and emotions and assessment of cognitive distortions.	Identify the association between inadequate ATs and anger, and challenge the veracity of ATs.
06	Identification of intermediate beliefs and introduction to core beliefs.	Understand that ATs reflect deeper concepts (ideas of self, perception of injustice, etc.).
07	Analysis of intermediate beliefs and core beliefs.	Discuss and identify the link between intermediate/core beliefs and excessive anger.
08	Identification of core beliefs.	Identify, discuss, and challenge core beliefs.
09	Discussion of alternative intermediate and core beliefs.	Start to modify maladaptive intermediate/core beliefs and enhance cognitive flexibility.
10	Introduction to assertiveness (concept and use) and problem-solving techniques.	Increase insight on how to solve conflicts in constructive ways and improve communication skills.
11	Assertiveness training and problem-solving techniques.	Improve communication skills and simulate ''real-world'' situations.
12	Review of the content discussed.	Summarize/reinforce the subjects discussed, and give a comprehensive overall perspective.
13	Discussion of the perceived therapeutic gains and relapse prevention.	Reinforce the use of assertiveness, and the solution of conflicts in constructive ways.
14	Learning from relapse.	Discuss real case(s) of relapse in the group and analyze what could have been done differently.
15	Discussion of perceived therapeutic gains and program conclusion (Phase 1).	Reinforce positive behaviors and incentivize further transfer of learned skills to the ''real world''.
Maintenance schedule (three sessions every 2 weeks)		
16	Follow-up on the occurrence of aggressive and non-aggressive behaviors.	Assess transfer of learned skills to the ''real world'' and work further on possible weaknesses.
17	Review of the basic concepts of CBT and its application.	Reinforce that thoughts and beliefs may be modified.
18	Conclusion of maintenance program, discussion of therapeutic gains, and final assessment.	Reinforce positive thought processes and behaviors and enhance the ''internal psychotherapist.''

CBT = cognitive-behavioral therapy.

disorders were previously treated, and patients were enrolled in CBT only after their psychopharmaceutical prescription had remained unchanged for at least a month.

Measures

The State-Trait Anger Expression Scale (STAXI) was used as the outcome variable, and was applied before and after the CBT intervention.[9] The STAXI is a 44-question self-report inventory that assesses different anger dimensions. The questionnaire investigates five dimensions (scales) associated with anger: state anger, trait anger, anger expression in, anger expression out, and anger control. The combination of the scales anger expression in, anger expression out, and anger control provides the anger expression score.

Furthermore, the scale trait anger comprises two subscales: temperament and reaction. Each of the 44 items in the STAXI evaluates anger on a four-point Likert scale (1 to 4), where higher scores are associated with more severe anger. The STAXI has been adapted into and validated for use in Brazilian Portuguese.[10]

Statistical analysis

We used Wilcoxon tests to compare individual participants' STAXI scores before and after the intervention. Effect sizes (r) were calculated using the formula $r = z/\sqrt{n}$.[11]

Using the normative data for the Brazilian Portuguese STAXI,[10] we computed the reliable change index. This measure is obtained with the equation: Reliable Change Index = (post-test score - pretest score)/standard error of the difference between the two scores.[11] By measuring the reliable change index, we were able to report the percentage of patients who achieved reliable change after treatment.

Results

Subjects who completed treatment (n=59) and dropouts (n=25) were compared. No differences were found in their demographic profiles and pre-treatment status.

Comparison of pre- and post-treatment STAXI scores showed statistically significant changes in all anger scales and subscales of the questionnaire. Figure 1 displays the scores in the different STAXI dimensions before and after the group intervention.

With respect to the percentage of patients achieving reliable change after treatment, the five primary STAXI scales demonstrated the following results: 80.0% for state anger; 100% for trait anger; 41.3% for anger expression in; 93.7% for anger expression out; and 59.9% for anger control.

Discussion

This report presented the preliminary results of a clinical trial of group therapy based on cognitive-behavioral techniques for IED. The intervention demonstrated significantly positive effects on all STAXI anger scales and subscales. With respect to the overall impact of the intervention, the mean (SD) and median r_s for the six anger scales were, respectively, 0.514 (0.199) and 0.566. These r_s are categorized as large ($r \geqslant 0.5$).[12] The largest r_s were those associated with trait anger, anger expression out, and anger expression. These dimensions seem

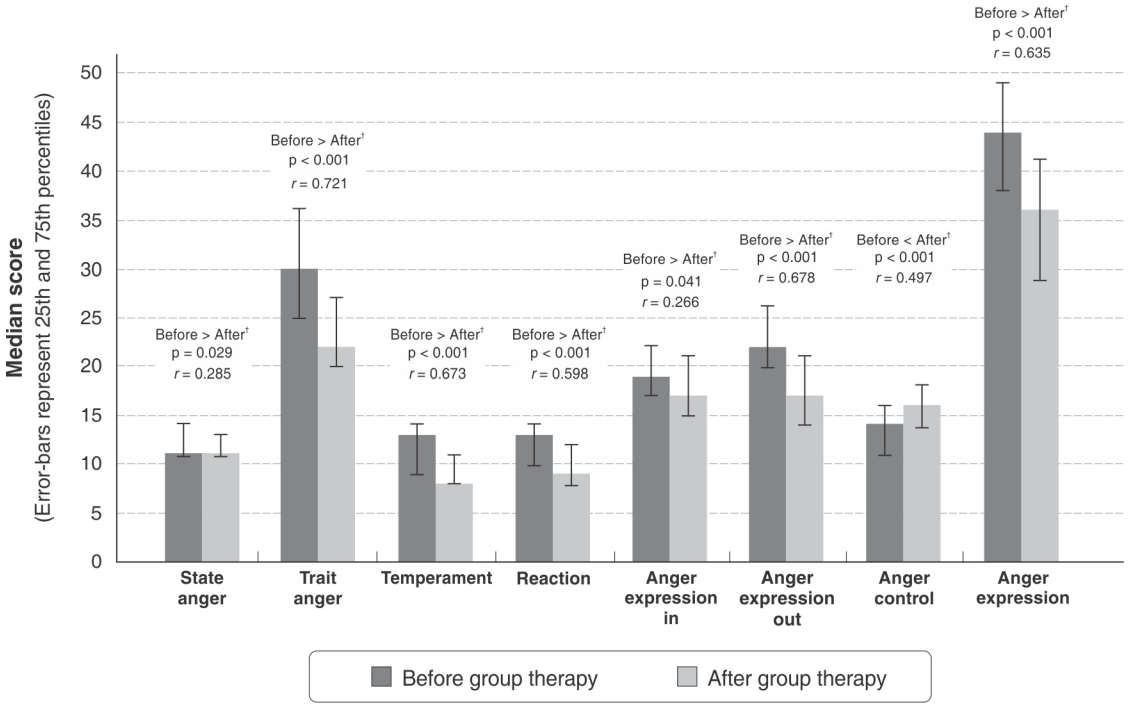

Figure 1 Comparison of median State-Trait Anger Expression Scale scores before and after group therapy for intermittent explosive disorder* (n=59). * Wilcoxon test. † Sum of ranks.

to be closely related to the clinical expression of IED, a disorder mainly characterized by maladaptive cognitions and impulsive/outward aggression.[1] Moreover, the percentage of reliable changes in the scales trait anger and anger expression out after treatment were very high (100.0% and 93.7%, respectively).

In their 2008 study, McCloskey et al. reported moderate effect sizes (mean and median r_s, 0.441 ± 0.114 and 0.459) for pre- and post-intervention scores associated with aggression/anger in subjects who received group CBT. In those who received individual CBT, the authors observed a large effect size for impact on aggression/anger scales (mean and median r_s of, respectively, 0.593 ± 0.114 and 0.601).[5] In this context, the mean and median r_s in our study are slightly higher than those obtained by McCloskey et al. for group CBT.[5] Some factors may explain our better results. First, our group intervention was longer than theirs (18 versus 12 sessions). Second, we added three maintenance sessions, administered every other week after the end of the intervention, to further address relapse prevention, reinforce learned skills, and enhance the "internal psychotherapist." When compared to individual CBT, the r_s obtained for anger/aggression scores in our group therapy were slightly lower than those obtained with individual therapy in the McCloskey et al. study. Nonetheless, individual CBT is likely less cost-effective than group therapy.[12,13] A comparison between our group intervention and pharmacotherapy revealed similar effect sizes to those of a trial conducted by Coccaro et al. using fluoxetine for subjects with IED.[14] Their study found r_s between 0.51 and 0.66 for anger/aggression measures.[14]

Despite the strengths of the current study, the lack of a control group precludes more powerful conclusions, such as whether the observed effects are attributable solely to the CBT intervention. There is a clear need for control/placebo comparisons in future studies approaching group therapy for disorders associated with excessive anger. However, the McCloskey et al. study did not find any response in their control group, which might partially mitigate the uncontrolled design of our intervention.[5]

This preliminary report is a significant addition to the scarce current literature. Our contribution provides further evidence that structured group CBT, with a focus on anger management and cognitive coping, may be a promising approach to the treatment of IED.

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