Poster

I-Change: A Randomized Controlled Trial of Cognitive Bias Modification-Interpretation as an Augmentation to Partial Hospitalization

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Abstract

Background: The tendency to resolve ambiguity in a negative manner (ie, interpretation bias) has been implicated in the etiology and maintenance of a range of emotional disorders. Cognitive bias modification computer training tasks targeting interpretation (CBM-I) have successfully improved interpretation bias in anxiety and depression, with subsequent positive effects on symptoms and behavior. CBM-I has great potential for dissemination as it targets a transdiagnostic mechanism, is computerized, can be reliably administered across settings, and does not require clinician contact or patients to apply complicated concepts. However, few studies have tested CBM-I's effectiveness in real-world settings. Moreover, few studies have examined patient experiences with this type of intervention.

Objective: The current study tested the effectiveness of CBM-I as an augmentation to a cognitive behavioral therapy (CBT) based partial hospital. We also examined patient acceptability, experience, and perceived mechanisms of action.

Methods: Patients (N=62) were randomly assigned to complete a word-sentence association paradigm (WSAP) that reinforced patients ("you are correct!") for making benign interpretations and rejecting negative interpretations of ambiguous scenarios or to a neutral control task. Patients completed the 10-minute task daily while attending the partial hospital (average duration=8 days). The primary outcome measure was the patient-rated Clinical Global Improvement Scale, and treatment response was defined as a rating of "very much improved." We assessed patient experiences with an exit questionnaire completed on discharge day. Three authors independently coded qualitative data and generated a potential coding scheme. We then met and reached a consensus on the final themes.

Results: Patients successfully learned the interpretation contingencies in the task (ie, significant increase in benign interpretations and decrease in negative interpretations, $P<.001$). In patients who demonstrated an interpretation bias at baseline, 36% of patients completing CBM-I were classified as responders ("very much improved") compared to 0% in the control, $\chi 2 = 4.41$, $P<.04$. There was also a moderate between-group effect size for improvement in well-being (d=0.6). Qualitative data revealed that patients believed CBM encouraged them to broaden their interpretations of situations and to question initial reactions. Patients identified the repetitive nature of the task as a crucial aspect of the program, stating that the repetition facilitated their ability to make positive interpretations in everyday life. Patients also appeared to be quite engaged in the task, often verbalizing that they were striving to improve their accuracy and that the task felt like a game. However, a few patients initially expressed concerns that the program was "bogus" and that they disliked being told that their subjective interpretation of a situation was "incorrect."

Conclusions: In a subgroup of patients with interpretation bias, CBM-I may be an effective augmentation to psychiatric hospitalization. Patients understood the purpose of the task and felt that it reinforced information learned in other treatment modalities (eg, CBT). This very brief and simple task has the potential to improve outcomes in a high-risk population characterized

by comorbidity, suicidality, and chronic mental health problems. We will present data from the final sample (N=100), including moderators of treatment response.

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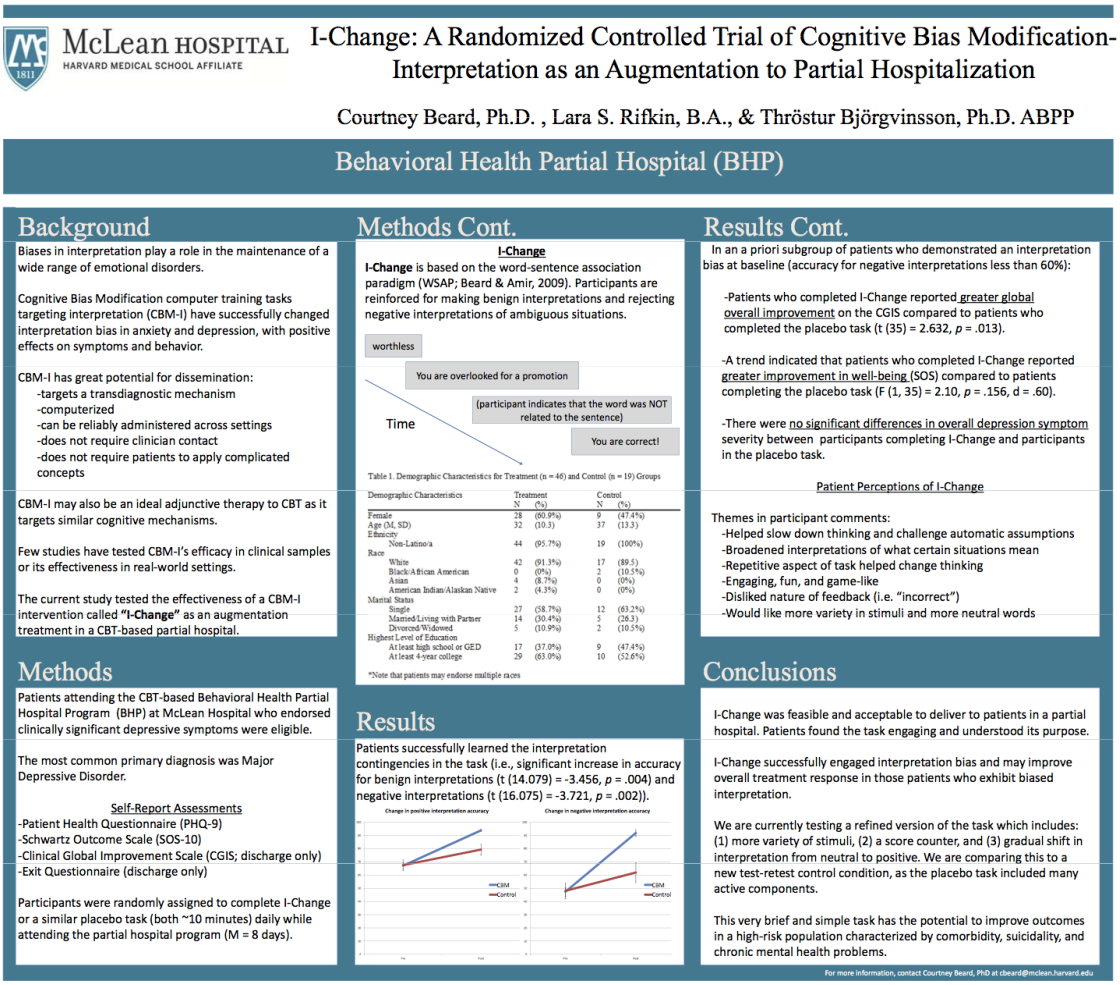
KEYWORDS

cognitive bias modification; interpretation bias; emotional disorders

This poster was presented at the Connected Health Symposium 2016, October 20-21, Boston, MA, United States. The poster is displayed as an image in Figure 1 and as a PDF in Multimedia Appendix 1.

Figure 1. Poster.



Multimedia Appendix 1

Poster.

[PDF File (Adobe PDF File), 133KB-Multimedia Appendix 1]

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