Introduction

The three most common anxiety disorders amongst adolescents, sometimes referred to collectively as the anxiety triad, are Generalized Anxiety Disorder (GAD), Social Phobia (SP) and Separation Anxiety Disorder (SAD). An estimated 60-65% of youth suffering from an Anxiety Disorder (AD) show a significant reduction in anxiety symptoms following treatment with cognitive behavioural therapy (CBT). At the same time, recognition of how anxious individuals tend to overestimate danger as well as physical and social threat, and furthermore underestimate their ability to control outcomes and deal with threats. Thus, CBT has as its foundation a variety of techniques aimed at teaching the use of cognitive mediational strategies that guide behaviour and result in improved mood, and coping strategies. By identifying the relationships that exist between changes that take place in adolescents with AD pre and post cognitive behavioural therapy, it is possible to better understand the unique psychological profile of each participant. Statistical analysis of results was accomplished using SPSS software.

Methodology

The study population was comprised of post-pubertal adolescents, aged 12-18, with Social Phobia (SP), Generalized Anxiety Disorder (GAD) and/or Separation Anxiety Disorder (SAD). A control group of post-pubertal adolescents individually matched to the clinical participants for sex and age (± 1 year) but with no personal or first-degree relative history of mental disorders was also recruited. Firstly, the clinical and control participants were compared at baseline on a number of clinical and psychological measures, using a case-control design. Then, using an open-label treatment design, participants with AD received CBT for 16 weeks following the Kendall’s C.A.T. program. Clinical assessment was accomplished using the Anxiety Disorders Interview Schedule for DSM-IV, Research and Lifetime Versions (ADIS-IV-RL) and the Pediatric Anxiety Rating Scale (PARS), in order to obtain a composite diagnosis and better understand each participant. Participants also completed self-report measures including the Childhood Anxiety Sensitivity Index (CASI) and the Response to Stress Questionnaire (RSQ) which are both cognitive measures, as well as the Response to Stress Questionnaire (RSQ) which measures coping abilities. The CASI is a scale utilized for measuring anxiety sensitivity, such as belief that anxiety leads to catastrophic negative consequences, in a pediatric population. The NASSQ is a 70-item scale designed to assess cognition associated with negative affect in children in adolescents. Finally, the RSQ is aimed at exploring coping strategies as well as involuntary stress responses in youth. Primary and Secondary Control Engagement are considered “adaptive” coping strategies, while Disengagement, Involuntary Engagement and Involuntary Disengagement are seen as “maladaptive”. Participants in the study completed two additional self-report measures, the Beck Depression Inventory-II (BDI-II) and the Multidimensional Anxiety Scale for Children (MASC) as a means of further characterizing the unique psychological profile of each participant.

Results

25 patients were enrolled in the study who met full diagnostic criteria for an AD as a primary diagnosis according to the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (Text Revised). In addition to the dichotomous diagnostic value of the AD in differentiating between patients and controls clinically, study participants in both groups were also compared on a number of measures assessing for cognition, mood, and coping strategies. Independent samples t-tests were performed to compare baseline scores between clinical and control participants on BDI-II, MASCI, CASI, and NASSQ measures. Results revealed significantly higher scores in the clinical group as compared to the control group not only for anxiety symptoms (MASCI, t(109) = 9.477, p < .001) but also for depressive symptoms (BDI, t(157) = 3.77, p < .001), negative self-talk (NASSQ, t(110) = 8.666, p < .001), and anxiety sensitivity (CASI, t(100) = 7.94, p < .001). Subsequently, paired samples t-tests were performed to compare clinical participant’s scores pre- to post-treatment on the following measures: PARS, NASSQ, CASI, MASCl, and RSQ. All clinical and cognitive measures changed significantly from pre-to post-treatment. Scores on the PARS, t(2) = 1.197, t(2) = 0.97, p < .001, CASI, t(2) = -3.40, p = .002, NASSQ, t(2) = 3.57, p < .001, all decreased significantly. Scores on the RSQ changed where use of Primary, t(2) = -1.02, p = .322, and Secondary, t(2) = -1.97, p = .092, Disengagement increased, and use of Disengagement, t(2) = 4.72, p < .001. Involuntary Engagement, t(2) = 2.26, p = .035, and Involuntary Disengagement, t(2) = 3.095, p = .006, decreased.

Discussion, Conclusions & Future Steps

It is clear that the control and patient populations of this study differed significantly on a number of measures (CASI, NASSQ, BDI and MASCl), capturing the higher prevalence of anxiety, and associated dysfunctional cognitive processing in the patient group. Changes in the clinical group from pre-to post-treatment indicated that the CBT treatment that was used in order to alleviate anxiety symptoms in the patient population was very effective in reducing clinical symptoms as well as producing significant changes in cognition. In addition to changes in cognition, amelioration in coping strategies was also seen in the clinical group; this is shown by an overall increase in the scores for RSQ subscales related to adaptive coping strategies and an overall decrease in scores for RSQ subscales related to maladaptive and dysfunctional coping strategies. Future direction for this project is to explore the correlations that may exist between cognitive changes and therapeutic improvement of anxiety in adolescents through CBT, as well as the possible correlations between said improvement and a better balance of coping strategies. By gaining a better grasp of the dynamics of change that takes place over the course of CBT in adolescents with anxiety, one is hopeful of improving the mental health and wellbeing of this population.

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