Comparing Traditional Cognitive Behavior Therapy with Mindfulness-Based Interventions as a Treatment Option for Anxiety Disorders in Pediatric Patients

Nearly one in three adolescents meets the criteria for an anxiety disorder (31.9%) according to the National Institute of Mental Health; it is commonly underdiagnosed and untreated. The use of behavioral therapies such as Cognitive Behavioral Group Therapy (CBGT) and mindfulness-based group interventions (MBIs) is on the rise with more evidence showing the effectiveness of these therapies. The aim of this review is to assess the effectiveness of a MBI in adolescent patients with anxiety disorders and chronic illness. The second aim is to look at the differences in outcomes of MBIs and standard CBGT in adolescent patients with anxiety disorders. For the first aim, we performed a literature search for studies comparing MBI with CBGT in the treatment of children and adolescents. For the second aim, we assessed the effectiveness of MBIs in adolescent patients at our Academic Center, by performing a retrospective chart review of the ratings on the SCARED (Screen for Child Anxiety Related Disorders) scale before and after a MBI in an 8-week group therapy. The data was compared to our previous published study results from patients who underwent CBT treatment alone. Two out of six participants completed the pre- and post-group session SCARED rating scale. This was due to the high dropout rate, which is not uncommon for group therapy. There was an overall decrease in total anxiety scores in the MBI group in our limited sample size compared to CBT group results previously reported. A major limitation of our study is a high dropout rate not uncommon in this patient population. Additional studies comparing these two treatments are needed, especially considering limited available literature comparing these two therapy approaches.

Keywords: mindfulness, chronic illness, children and adolescents, anxiety, cognitive behavioral therapy.

Introduction

By the year 2020, around 157 million people in the United States will be affected by chronic illness while 81 million will develop multiple conditions. (“Tackling the Burden of Chronic Diseases,” 2009). Studies indicate that children survival rates from terminal illnesses have improved and those diseases that once led to premature death are now treatable. (Mokkink LB, 2008) Presently, 15 to 18 million children or 1 out of every 4 children in the United States suffer from a chronic health condition. (Compas BE, 2012)

By definition, chronic illness is considered a health issue that is not yet curable and lasts around three months, affects a child’s activities and requires frequent hospitalizations, and can lead to home care and vast health care needs. (Mokkink LB, 2008) Advances in medical outcomes including early detection and diagnosis have led many children and adolescents to live and cope with chronic illness. Children and adolescents with chronic illness must cope with school absenteeism, medical procedures, multiple hospitalizations, drug...
interventions and restriction of usual activities. Usually, within a year of treatment, some of these children, develop skills in problem solving and emotional regulation and are able to manage their illness leading to higher confidence and improved self-esteem. (LeBlanc LA, 2003)

Not all children are able to cope with stressors or develop cognitive appraisal, the main cognitive process that mediates the stress reaction. (Lazarus RS, 1984) According to a meta-analysis of 332 studies, children with chronic illness compared to healthy peers have elevated levels of anxiety with the highest being in those with chronic fatigue syndrome, epilepsy, migraine/tension headaches, and sensory impairment. (Pinquart M, 2011) An increased rate of behavioral problems in children and adolescents with chronic illnesses suggests that dysfunctional cognitive strategies such as catastrophizing are used to cope. Some of the negative cognitive strategies include anxious anticipation, avoidance, worry and rumination. (Olson AL, 1993)

Literature Review

Cognitive behavioral therapy challenges dysfunctional coping strategies. In a review of psycho-educational interventions, cognitive behavioral strategies lead to higher effectiveness and improved outcomes in children and adolescents with chronic illnesses, which were maintained at a one year follow up. (Barlow JH, 2004) In the Op Koers trial (in English: On Track), children and adolescents with chronic illness in groups were taught active use of cognitive behavioral strategies aimed at improving self-management, social competence and positive thinking. (Schilten L, 2011)

In our study, similar to that of a randomized multicenter controlled trial with cognitive behavioral based group interventions for children and their parents, chronic illnesses were grouped together without a distinction of different diagnoses. (Schilten L, 2011) Children and adolescents share common experiences, such as being bullied or feeling isolated. Since coping strategies are similar in healthy peers and those with chronic illnesses, there is no true distinction between diagnoses. (Olson AL, 1993) Therefore, it is important to consider the whole chronic illness experience of the child and adolescent and not necessarily a specific disease category. (Barlow JH, 2004)

Although cognitive behavioral therapy is the most evidence-based psychotherapy known to reduce symptoms of anxiety (van der BG, 2016), there are few studies examining chronic illness and anxiety in children. In a pilot study of nine children displaying a disease specific diagnosis of inflammatory bowel disease and anxiety, half showed no signs of anxiety after treatment intervention. (Reigada LC, 2013) Another study with children with anxiety and epilepsy utilized computerized cognitive behavioral therapy as an intervention. While the study showed a reduction in anxiety at the end of the intervention, it also showed an overall reduction in total problematic child behavior on the Child Behavioral Checklist. (Blocher JB, 2013) In a systematic review of psychological
interventions, only one study utilized group cognitive behavioral therapy matching controls of children with anxiety and asthma and children with anxiety alone, showed a significant reduction in the clinical global impression scale. (Bennett S, 2015)

Unlike cognitive behavioral therapy which is mostly individual based interventions, mindfulness is generally taught in groups. (Thompson & Gauntlett-Gilbert, 2008) Mindfulness can be defined as “paying attention in a particular way: on purpose in the present moment, and nonjudgmentally.” (Kabat-Zinn, 1994) It differs from cognitive behavioral therapy in that it recognizes problematic thoughts without changing them. It is a mode of acceptance and awareness of thinking. Cognitive behavioral approaches give precedence to challenge the content of thoughts. (Thompson & Gauntlett-Gilbert, 2008) Mindfulness based strategies lend to engagement and group cohesion in children and adolescents. (Wagner, Rathus, & Miller, 2006) It leads to sharing of experiences in which members can learn and support one another. (Semple, Lee, & Miller, 2006)

Mindfulness-based interventions include mediation-based strategies such as nonjudgmental diaphragmatic breathing with focused attention, self-regulation of emotions and general self-awareness. These strategies are associated with reduction in stress and negative emotions, improvement in patient attitude, health-related behavior and coping skills in individuals with diabetes. (Priya & Kalra, 2018) Only one pilot study in mindfulness meditation showed efficacy with improvement in mood and quality of life as reported by parents in a group of adolescents. It also lead to a reduction of inflammatory factors: IL-1 B, IL-6 and TNF-alpha levels. (Sansone, Raggi, D'Amico, Scaratti, & Grazzi, 2018)

Presently, no research exists as to the addition of mindfulness mediation-based strategies to cognitive behavioral therapy in children and adolescents with anxiety and chronic illness making our study unique.

The estimated lifetime prevalence of anxiety disorders in children is 31.9%. (Merikangas, KR et al., 2010) If left untreated, it can have a negative impact on a child’s life (van Beljouw I et al., 2010). Children and adolescents with chronic illness can face a number of physical and emotional challenges after diagnosis and during treatment. Children with chronic health conditions are at an increased risk for depression and other mental health problems later in life.

Specifc Aims/Objectives

The first objective of this study was to assess the effectiveness of a Mindfulness Cognitive Behavior Therapy Groups for Children and adolescents with anxiety disorder and chronic illnesses and/or Tourette syndrome. Due to the small sample size of the group who responded to recruitment, there was no patient in the group with Tourette syndrome. The group consisted solely of children and adolescents with anxiety and/or chronic illnesses.

This research study attempted to compare outcome from the previous published study by authors (Scales R, Zeiger T, Petrovic L, 2018) where traditional Cognitive Behavior Therapy group was offered to determine the effectiveness of CBGT sessions for children and adolescents with Social Anxiety Disorder (SAD) and Generalized Anxiety Disorder (GAD) to the Mindfulness
goop therapy for children and adolescents with the anxiety disorders and chronic illness

Another aim was to perform literature searches and identify the publications comparing Mindfulness with Cognitive Behavioral therapy for treatment of children and adolescents with the focus on children with the anxiety and chronic illness.

Methodology

This study was approved by the Institutional Review Boards of Penn State Milton S. Hershey Medical Center and Penn State College of Medicine.

Eligible subjects were identified through Hershey Medical Center’s electronic database of patient files by searching for a group therapy session’s participants. We performed a retrospective chart review of the ratings on the SCARED (Screen for Child Anxiety Related Disorders) scale before and after a mindfulness based intervention in an 8-week group therapy.

Control group was from previously reported study by authors (Scales R, Zeiger T. Petrovic L 2018), where patients were included in the study if they were between the ages 6 to 18 years, had a primary diagnosis of SAD or GAD or any other anxiety diagnosis. Patients from both groups were enrolled in the Penn State Hershey Psychiatry cognitive behavioral group therapy in the time frame 07/2016-06//2018 and had completed pre- and post-analysis of SCARED.

The diagnosis of an anxiety disorder was determined by clinical interview by child and adolescent psychologists or therapists based on Diagnostic and Statistical Manual of Mental Disorders (DSM V).

Electronic database searches were conducted by using PubMed, and Medline OVID utilizing keywords: chronic illness, children and adolescents, anxiety, cognitive behavioral therapy, mindfulness.

Procedures

Child Self-Report and Parent Report Measures

SCARED, was the primary tool used to determine improvement in anxiety levels amongst the participants. SCARED is a 41-item standardized self-reporting tool that was developed for children and adolescents as well as for parents to screen for anxiety disorders, including General Anxiety Disorder, Separation Anxiety Disorder, Panic Disorder, Social Phobia, and School Phobia (Birmaher, et al., 1997). Responses to the 41 items are summed up into a composite score and scores on individual anxiety subscales (Birmaher, et al., 1997). A composite score of 25 or greater indicates the presence of an anxiety disorder (Birmaher, et al., 1997).
Participants completed self-report SCARED both on the first and last day of the group and documentation was uploaded into the Electronic Medical Record (EMR.) Pre- and post-analysis of SCARED from both participant and/or parent, was obtained from the EMR.) Identifiers were destroyed upon retrieval of the data from the medical record and review of it.

Results

To determine if Penn State’s Pediatric Psychiatry CBGT for Generalized Anxiety Disorders was effective in lowering anxiety scores, we attempted to compare information between the pre- and post- SCARED using t-tests. Due to high number of participants with chronic illness and anxiety who did not attend the last session to fill the SCARED or dropped out, statistical analysis could not be performed or compared with control group previously reported. This finding tends not to be uncommon for group therapy interventions especially when working with children and adolescents who are either highly anxious and/or live life with a chronic illness given its impact on their overall quality of life socially, emotionally and behaviorally.

Results for the CBGT group were still very promising even given the small sample size. For both participants there was either a significant self-reported decrease in overall anxiety from pre and post or no change at all. For participant 1 the pre SCARED score was 9 and the post SCARED score was 2. For participant 2 the pre SCARED score was 24 and the post SCARED score was 25.

Discussion

The literate review showed the limited number of studies comparing these two treatments.

Our findings for the CBGT are favorable showing a significant decrease in overall anxiety for most participants and no worsening of anxiety in the remaining participants as determined by pre and post intervention anxiety scores.

Our experimental group had smaller sample size compared to participants who fully completed four or more sessions in our previously published control group. The experimental group also did not have pre- and post-SCARED documentation within the EMR for all participants due to very high dropout rate and non-completion of the final SCARED in the study group. That prevented us from being able to perform meaningful statistical analysis. Mindfulness group will have to be repeated in order to draw any conclusion about the effects of the treatment compared to the traditional CBT.
Conclusions

Mindfulness based interventions are part of a new wave of group psychotherapeutic interventions to treat a variety of individuals with anxiety whether they have anxiety alone or anxiety with comorbidities such as chronic illnesses as examined in our present study.

Even given our limited sample size due to the high dropout rate which again, is not uncommon in such groups, we were able to see, in our two participants, who completed the pre and post testing, a decrease in one of the participants’ level of anxiety pre and post group intervention. We believe that with a larger participant base our findings would be even more robust for this population that we examined. That is a future goal of our work.

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