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Efficacy of transdiagnostic cognitive-behavioral group therapy for anxiety disorders and headache in adolescents

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ABSTRACT

Anxiety disorders and headache are both among the most prevalent disorders among adolescents. Although cognitive behavioral therapy (CBT) has proved its efficacy with each of these disorders individually, there are several barriers to its utilization, including cost, gaps in knowledge about treatment delivery and modes, and its utility with comorbid disorders. The current study examined the comparative efficacy of a 12 week TCBT Group treatment ($n = 32$) versus treatment as usual group ($n = 31$) (TAU) in adolescents with anxiety disorders and headache in a north Indian hospital based setting. Results from 63 adolescents suggested while both conditions improved significantly on the Headache Impact Test and Children's Global Assessment Scale, those receiving TCBT showed significantly greater improvement than those in the TAU condition. Participants receiving TCBT, but not those in the TAU condition, showed significant improvement on the State Trait Anxiety Inventory. The study provides evidence supporting the efficacy of TCBT in adolescents with anxiety disorders and headache. Further, group TCBT has the benefits of easy dissemination and increased access to evidence-based treatment, thus, lowering costs and therapist time.

1. Introduction

Anxiety disorders are one of the most common psychological disorders in school-aged children and adolescents worldwide (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003) and are associated with considerable distress and impairment in adaptive function. Further, a study with an Indian adolescent sample (Mohapatra, Agarwal, Sitholey, & Arya, 2014) reported that 53% of adolescents with anxiety disorders had additional comorbid psychiatric disorders, with 64% of these having one comorbid psychiatric disorder and 37% having more than one comorbid psychiatric illness. Headache is another common complaint among adolescents leading to significant disruption of their normal daily activities at home, school, and social settings, thus affecting the quality of life of the adolescent (Roth Isigkeit, Thyen, Raspe, Stöven, & Schmucker, 2004). Studies suggest that clients with anxiety disorders are at a higher risk of migraine (Arruda & Bigal, 2012). Anxiety disorders have been further seen to predict the onset of migraine (Antonaci et al., 2011), long-term migraine persistence, headache-related disability and reduced perception of efficacy with acute treatment (Lantéri-Minet, Radat, Chautard, & Lucas, 2005). The association between anxiety disorders and headache thus calls for the need for an integrated medical and psychological approach to assess and intervene with adolescents and their families.

Cognitive behavior therapy (CBT) is used as a treatment for both anxiety disorders and headache. There is an increasing evidence for short- and long-term efficacy of CBT for anxiety-related difficulties in adolescence (Silverman, Pina, & Viswesvaran, 2008; Walkup et al., 2008). Similarly, CBT has also been successfully applied to pediatric headaches (Kroener-Herwig & Denecke, 2002; Palermo, Wilson, Peters, Lewandowski, & Somhegyi, 2009; Palermo, Eccleston, Lewandowski, Williams, & Morley, 2010; Trautmann & Kröner-Herwig, 2010). Despite this, there are several challenges that limit the utility of CBT.

First, the presence of a comorbid disorder has been seen to have a negative impact on treatment response (Storch et al., 2008). It is difficult for the therapist to address both disorders at once and to choose what to treat first. Treatment manuals used in randomized controlled trials (RCTs) do not usually provide guidance for dealing with issues of comorbidity and hence limits their usefulness for clinicians who are most often presented with clients who have multiple disorders (Kessler, Chiu, Demler, & Walters, 2005). Second, although CBT has its advantages, it has been observed that only 5% of the patients with a detected psychiatric disorder receive

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CBT (Cavanagh, 2010). There is an enormous gap between the need for treatment of mental disorders and the resources available. India faces a treatment gap of 90%, indicating that only 10% of those suffering from a mental disorder receive treatment (Kumar, 2011). Several barriers to dissemination of CBT involve cost (Myhr & Payne, 2006; van Asselt et al., 2008) and gaps in knowledge about treatment delivery and modes.

Transdiagnostic CBT (TCBT) provides a potential solution to both the treatment gap and issues of comorbidity. TCBT goes beyond diagnosis and addresses shared mechanisms across disorders (Harvey, 2004). TCBT saves therapist time and treatment cost due to its applicability in group-based treatments (Bullis et al., 2015) although it can also be applied in an individual format. It equips the mental health service provider with a single therapy module to treat comorbidity (McEvoy, Nathan, & Norton, 2009). The high capacity of application of TCBT in groups makes for an easier dissemination and accessibility (Mohammadi, Birashk, & Gharaie, 2013)

Norton and Barrera's (2012) TCBT for anxiety disorders consists of 12 weekly sessions. An RCT with 23 participants found outcomes on clinician-rated severity and remitted anxiety disorder proportion to be superior for clients who received TCBT treatment as compared to the ones on waitlist controls (Norton & Hope, 2005). A follow-up open clinical trial of 52 participants found a significant decrease in clinical severity of anxiety disorders after group TCBT (Norton, 2008). Subsequently, a study comparing group TCBT to relaxation training for 87 participants revealed statistically equivalent improvement across the two groups (Norton & Barrera, 2012). Finally, an RCT comparing the efficacy of TCBT to diagnosis-specific CBT for 46 individuals also resulted in statistically equivalent outcomes for both treatment conditions (Norton & Barrera, 2012). Transdiagnostic treatments have also been found to be useful for adolescents with chronic pain and comorbid anxiety and depression (Allen, Tsao, Seidman, Ehrenreich-May, & Zeltzer, 2012). In a meta-analysis of TCBT in the treatment of anxiety disorders in children and youth (4–18 years), Ewing, Monsen, Thompson, Cartwright-Hatton, and Field (2015) found significantly greater odds of anxiety remission after TCBT than among the control group; children in the TCBT group were 9.15 times more likely to recover from the anxiety disorder than those in the control group.

The present study sought to extend the work in the area of TCBT as applicable to adolescents suffering from anxiety disorders and headache and to assess its efficacy in this population. Although the efficacy of transdiagnostic treatments has been researched in the western literature, examining its role in an Eastern culture is important before they are accepted as an intervention medium in these countries. It was hypothesized that adolescents receiving TCBT would show a significantly greater reduction in both anxiety and headache severity than would adolescents receiving treatment-as-usual.

2. Method

2.1. Participants

Participants were drawn from 97 adolescents who approached the Child Guidance Clinic at the Department of Psychiatry, All India Institute of Medical Sciences, New Delhi, India. The following criteria were established for inclusion in the study: (a) between 10 and 19 years of age; (b) current ICD-10 diagnosis of anxiety disorder; (c) current International Headache Society (IHS) diagnosis of primary headache (episodic tension-type, migraine, or cluster headache; IHS, 2004); (d) basic reading and writing ability; (e) no significant change in medication regime since last 4 weeks; (f) no history suggestive of organic disorder, and (g) willingness to be randomized to group TCBT or treatment as usual (TAU) condition. Fig. 1 presents the CONSORT patient flowchart. Twenty adolescents did not meet the inclusion criteria, 4 declined to participate and 10 did not return following the assessment and could not be re-contacted.

Following the diagnostic assessment, participants were randomly assigned by the researcher (using a computer-generated list of random numbers) to TCBT group and TAU group. When a minimum of 6 adolescents had completed the assessments and been assigned to the TCBT group, the adolescents were assigned to begin the group sessions together. However, at times, groups started with fewer than six participants due to variations in patient flow in order to not delay treatment. The TCBT groups were stratified by age (10–14, 15–19) to ensure they felt comfortable and could contribute to the group sessions.

The sample of 63 adolescents consisted of 33 males and 30 females. The sample ranged in age from 10 to 19 years old with a mean age of 13.91 (SD = 2.43). Nearly half (44.4%) of the adolescents were in Grades 8–10 and majority (68.3%) belonged to nuclear family type (a social unit composed of parents and their children).

2.2. Measures

2.2.1. Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID; Sheehan et al., 1998)

The MINI-Kid is a short structured diagnostic interview that assesses for the presence of 24 DSM-IV child and adolescent psychiatric disorders. With an administration time of approximately 15 min, it is designed to meet the need for a short but accurate structured diagnostic interview for multicenter trials and epidemiology studies and can be used as the first step in outcome tracking in non-research clinical settings. Sensitivity and specificity were high (0.61–0.80) to very high (0.81+) respectively for all diagnostic syndromes (Sheehan et al., 2010). The inter-rater reliability of the tools ranges from 0.64–1.00 for different diagnostic syndromes (Sheehan et al., 2010). Internal consistency for the present sample was seen to be 0.77.

2.2.2. Children's depression inventory (CDI-2; Kovacs, 2010)

The CDI 2 is a revision of the CDI. It is used to evaluate depressive symptoms in children and adolescents. It aids in the early identification of depressive symptoms, the diagnosis of depression and related disorders as well as the monitoring of treatment effectiveness. The CDI self-report short version contains 10 items and takes 5–10 min to administer. The internal consistency of CDI lies between 0.71–0.89 (Kovacs, 2004). The test-retest reliability is 0.87–0.98 (Saylor, Finch, Spirito, & Bennett, 1984). A cut-off score of 20 was used for the present study (Kovacs, 1992).

2.2.3. State Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983)

The State-Trait Anxiety Inventory (STAI) is a self-report measure that indicates the intensity of feelings of anxiety. It distinguishes between state anxiety (i.e., a temporary condition experienced in specific situations) and trait anxiety (i.e., a general tendency to perceive situations as threatening). The test has 40 items – 20 each in the S-subscale (State) and T-Subscale (Trait). Spielberger et al. (1983) reported test–retest reliability coefficients ranging from 0.31 to 0.86, with intervals ranging from 1 h to 104 days. Internal consistency (alpha coefficients) was quite high ranging from 0.86 for high school students to 0.95 for military recruits (Spielberger et al., 1983). Internal consistency for the present sample on STAI-State and STAI-Trait was seen to be 0.85 and 0.92 respectively.

2.2.4. Headache Impact Test (HIT-6; Kosinski et al., 2003)

The Headache Impact Test has been designed to provide a global measure of adverse headache impact. It is used in screen-