Cognitive-Behavioral Therapy for Depression in Adolescents With Inflammatory Bowel Disease: A Pilot Study

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ABSTRACT

Objective: To evaluate the safety and feasibility of cognitive-behavioral therapy (CBT) for depression in physically ill adolescents. **Method:** In an open trial, 11 adolescents (12–17 years) with inflammatory bowel disease and either major or minor depression underwent 12 sessions of a manual-based CBT enhanced by social skills, physical illness narrative, and family psychoeducation components. Standardized instruments assessed pre- to posttreatment changes in depression, physical health, global psychological functioning, and social functioning. Perceived helpfulness and satisfaction with CBT were assessed. **Results:** There were significant reductions in *DSM-IV* depression diagnoses and depressive symptoms and improvements in global psychological and social functioning. Adolescents' perceptions of their general health and physical functioning improved, although illness severity measures were unchanged. High subject satisfaction and helpfulness ratings for CBT were found along with no adverse events and high subject adherence. **Conclusions:** A manual-based CBT approach adapted to treat depression in physically ill adolescents appears to be a safe, feasible, and promising intervention. *J. Am. Acad. Child Adolesc. Psychiatry*, 2004;43(12):1469–1477. **Key Words:** cognitive-behavioral therapy, physical illness, depression, inflammatory bowel disease.

Adolescent depression is a critical public health problem associated with poor school performance, impaired interpersonal relationships, and completed suicide (Keller et al., 1988; Rao et al., 1995). The 10 to 20 million U.S. youths with physical illnesses have depression rates nearly double those seen in the community, along with adverse medical outcomes and decreased quality of life (Bennett, 1994; Kovacs et al., 1995).

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Given the emotional and physical harm of depression, the development of effective mental health treatments for physically ill adolescents is crucial. Cognitive-behavioral therapy (CBT) has been shown to be effective in treating adolescent depression (American Academy of Child and Adolescent Psychiatry, 1998; Kaslow and Thompson, 1998) and in improving daily functioning in physically ill adolescents without depression (Haines et al., 1997; Shaw and Ehrlich, 1987; Walco et al., 1992). Nevertheless, there are few studies (Walco and Ilowite, 1992; Walco et al., 1992) addressing treatment efficacy of depression in physically ill adolescents and no manual-based treatments designed specifically for medical settings. Therefore, we developed an intervention for adolescents with comorbid depression and physical illness using a cognitive-behavioral approach augmented by additional components.

Primary and Secondary Control Enhancement Training (PASCET) is a manual-based CBT shown to be efficacious in treating depressed youths (Weisz et al.,

1997). PASCET is based on the premise that adolescents show increased vulnerability to depression due to skill deficits (i.e., unengaging social style) and maladaptive habits of thought (i.e., negative cognitive distortions) in response to distressing or ambiguous life events (i.e., a physical illness) (Weisz et al., 1999). PASCET enhances coping skills using a two-process model of perceived control. *Primary control* involves increasing the rewarding or reducing the punishing aspects of one's environment by bringing objective conditions into closer conformity with one's wishes. *Secondary control* involves adjusting one's beliefs about objective conditions, influencing subjective impact of events without altering the events themselves (Lazarus, 1980; Rothbaum et al., 1982; Weisz et al., 1994). For adolescents with comorbid depressive and physical illnesses, PASCET is a logical treatment approach given that locus of control has been implicated in both illnesses (Band and Weisz, 1988; Peterson, 1989; Weisz et al., 1994; Worchel et al., 1987).

Due to issues of medical illness severity and the extra family burden entailed, we augmented PASCET with social skills training (Engstrom, 1999; Ferry, 1999; Moody et al., 1999), family educational approaches (Beardslee et al., 2003; Fristad et al., 2002), and physical illness narratives (DeMaso et al., 2000; Smyth et al., 1999). These components enhance self-understanding and illness comprehension, important components of resiliency to depression (Beardslee, 1989; Focht and Beardslee, 1996) and physical illness (Engstrom, 1999).

Inflammatory bowel disease (IBD) is a model illness for CBT because of its high morbidity and depression rates (Engstrom, 1999; Hofley and Piccoli, 1994; McKegney et al., 1970). This autoimmune disorder is subdivided into Crohn disease and ulcerative colitis. Each presents with recurrent abdominal pain, bloody diarrhea, weight loss, and growth retardation. In comparison with healthy controls (Ferry, 1999; Schwarz and Blanchard, 1990), each is associated with behavioral problems, anxiety, and low self-esteem.

Patients with IBD face numerous hospitalizations, complicated medication regimens, restricted activities, missed social opportunities, and family relationship disruptions (Ferry, 1999; Moody et al., 1999). A nonpharmacological treatment of depression in IBD is appealing given that antidepressants may complicate medical regimens and exacerbate gastrointestinal symptoms. Adolescence is the peak time for juvenile onset of depression and IBD, making adolescents an ideal population for CBT (Booth and Harries, 1984; Lewinsohn et al., 1998).

This open trial aimed to demonstrate the safety and feasibility of a CBT approach in treating depression in adolescents with IBD. The effects of CBT on depression, global psychosocial functioning, physical illness functioning and severity, coping style, and perceived control were assessed. This study is unique in its application of a manual-based intervention to adolescents facing comorbid depressive and physical illnesses.

METHOD

Participants

This study was conducted through the Gastroenterology Clinic at Children's Hospital Boston and approved by the hospital's institutional review board. Informed assent and consent were obtained. The subjects were consecutive English-speaking patients with IBD of at least 3-month duration between 11 and 17 years of age who were seen during routine medical appointments and approached about recruitment by their gastroenterologist. Before the study onset, the therapist spent 6 months building liaisons with gastroenterology staff to facilitate recruitment. The selection of patients to participate involved a two-step screening process (Fig. 1). First, 102 adolescents were screened over 13 months for depressive symptoms using the Children's Depression Inventory (CDI)

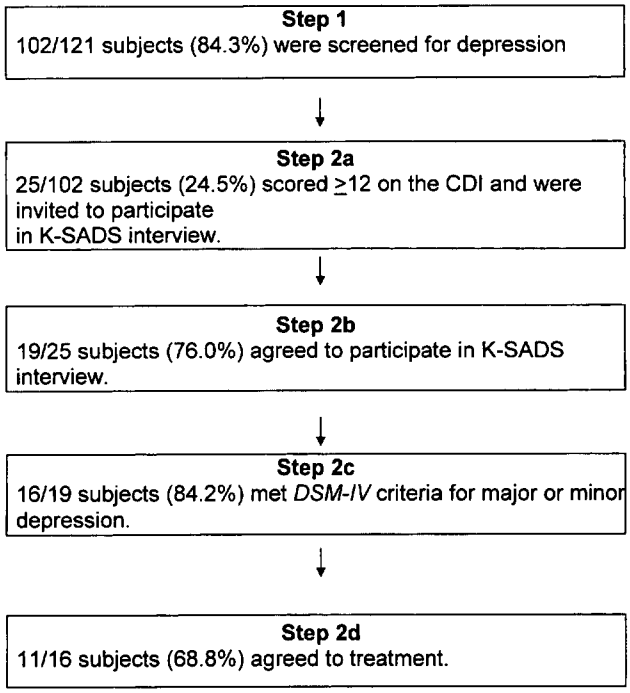

Fig. 1 Flowchart of study participation.

(Kovacs, 1992). Second, adolescents with CDI scores of ≥12 (n = 25) were asked to participate in a standardized psychiatric assessment (see Measures section). This cutoff score was selected because it yields a favorable sensitivity/specificity ratio for identifying major or minor depression (Kovacs, 1992). Minor depression is defined in the *DSM-IV* as a potential new diagnostic category requiring the presence of at least two but less than five symptoms of major depression lasting at least 2 weeks with clinically significant functional impairment. Nineteen adolescents agreed to the assessment, and six declined because of time and/or distance factors.

Treatment inclusion criteria were current major depression by *DSM-IV* criteria (American Psychiatric Association, 1994) or minor depression, Children's Global Assessment Scale (CGAS) (Shaffer et al., 1983) score <60, and biopsy-confirmed IBD. The exclusion criteria were a history of psychosis, bipolar disorder, or mental retardation; treatment with manual-based CBT or antidepressants in the previous month; current substance abuse; pregnancy; absence of both biological parents; depression requiring hospitalization; and active suicidal ideation. The average length of time between steps 1 and 2 was 3.0 weeks (range 0–8) and between step 2 and treatment was 2.5 weeks (range 0–6).

Of 16 adolescents meeting criteria for major or minor depression, 11 participated in treatment, 5 subjects did not participate due to suicidal ideation (n = 1), CGAS >60 (n = 2), and travel distance (n = 2).

PASCET–Physical Illness (PI) Manual Development

The original PASCET was modified to include physical illness narrative, social skills enhancement, and family education elements (Szigethy et al., 2003), revisions necessary to address the specific impact of physical illness on depressed adolescents (Szigethy et al., 2002). The PASCET-PI consists of twelve 50-minute sessions covering primary control (sessions 1–7), secondary control (sessions 8–12), and coping skills, with as many as four additional sessions included based on the therapist's judgment of the child's improvement and coping skill mastery (Table 1). Each session includes rating scales for mood, physical health, and pain; reviewing practice assignments; learning a new skill; and planning practice assignments to help the adolescents integrate the coping strategies into their daily life. Adolescents were given workbooks designed to facilitate role-plays, provide in vivo skill practice, and guide homework assignments. The manual offers flexible options to tailor the intervention to an adolescent's developmental level. At the end of each session, parents join for a brief meeting and homework review.

In addition, three 60-minute family sessions, based on the psychoeducational approaches developed by Beardslee et al. (2003), are conducted at the beginning, middle, and end of treatment (Table 1). The first 40 minutes are held with the parents alone, and the remaining 20 minutes with the parents, the adolescent, and, if appropriate, the siblings. These sessions complement the individual sessions by reviewing parents' perspectives on their child's problems, strengths, and goals, reviewing the PASCET skills in the context of the family's illness narrative, teaching family coping skills, and assigning homework.

CBT Protocol

All 11 participants completed the full PASCET-PI, including all family sessions. The mean number of sessions was 12.4 (range

TABLE 1

Outline of Primary and Secondary Control Enhancement Training–Physical Illness

Session	Individual Description (50-Minute Weekly Session)
1	Psychoeducation about comorbid depression and physical illness, cognitive-behavioral therapy, and problem-solving approaches
2	Constructing physical illness narrative; applying the problem-solving approach to illness coping
3	Choosing enjoyable solo activities
4	Planning social activities; developing social problem-solving skills
5	Relaxation techniques; guided imagery to cope with pain
6	Showing positive self
7	Developing talents
8	Identifying negative cognitive distortions
9	Modifying negative cognitive distortions and attributions regarding physical illness
10	Practicing positive reframing using thoughts, distracting activities, and social support
11	Review of skills learned and personalizing skills
12	Further consolidation of skills learned and personalizing skills
13	As many as four additional sessions based on improvement and skill mastery
Session	**Family Description (60-Minute Session at Beginning, Middle, and End)**
1	Probe family's illness experience; psychoeducation about depression and physical illness within family's illness narrative; teach family problem-solving
2	Psychoeducation about expressed emotion; discussion between adolescent and parents about progress and problems; family game aimed at decreasing expressed emotion
3	Discussion between adolescent and parents about progress and problems; psychoeducation about early signs of depression; validation of grieving process and make meaning of physical illness–related adversity; empowering parent–adolescent dyads or triads to reinforce PASCET skills in their daily lives

Note: PASCET = Primary and Secondary Control Enhancement Training.

12–14) with a mean course of 3.3 months (range 2.8–4.3). Average homework adherence was 86% (range 55%–100%). The family sessions were attended by parents alone (n = 5), parents/sibling (n = 1), mother only (n = 3), grandmother only (n = 1), and father/significant other (n = 1).

After undergoing PASCET training, the first author conducted the CBT with each participant. Most sessions were completed in an outpatient office; however, four subjects received at least one telephone session (range 0–5), three subjects received at least two sessions during infliximab intravenous infusions, and one adolescent had three sessions during a medical hospitalization.

Therapist adherence was assessed by the PASCET-PI Protocol Adherence Checklist, which was adapted from a PASCET adherence measure. Two independent, trained raters completed the PASCET-PI Protocol Adherence Checklist containing each session's components to assess adherence to the manual-based protocol. Interrater reliability was adequate (mean κ value = 0.84, range 0.75–0.95). On average, 86% (range 77%–94%) of the CBT material was covered during treatment.

Measures

Except for the structured interview, all measures were given before and within 2 weeks of completing treatment.

Psychiatric Diagnosis. The Schedule for Affective Disorders and Schizophrenia for School-Age Children, Present and Lifetime Version (K-SADS-PL; parent and child version) (Kaufman et al., 1997) was used to assess current and past psychiatric diagnoses based on the synthesis of information collected from interviewing both the adolescent and parent, with the adolescent's and parent's report weighed more heavily for internalizing and externalizing symptoms, respectively. The same interviewer, not the primary therapist, completed the pre- and posttreatment assessments; raters blinded to treatment status rated a randomly selected 42% of pretreatment and 36% of posttreatment taped sessions, with 100% agreement on diagnoses.

Depressive Symptoms. The CDI self-report and parent report measures assessed depressive symptomatology (Kovacs, 1992). The CDI has well-validated psychometric properties and has been used to reliably diagnose depression in medically ill populations (Engstrom, 1992; Seigel et al., 1990). In addition, the total number of depressive symptom items endorsed by parent and child during the K-SADS-PL was tabulated.

Global Psychological Functioning. The CGAS is an indicator of overall functioning, including symptom severity and impaired life functioning, based on clinician judgment index. The pretreatment CGAS score was determined by the therapist and the posttreatment CGAS score by clinical consensus with an independent clinician. A cutoff score of 60 separates normal from significantly impaired functioning. The scale has demonstrated high interrater reliability, test-retest reliability, and discriminant validity (Shaffer et al., 1983; Steinhausen, 1987).

Social Functioning. The Social Adjustment Scale-Self Report, completed by the adolescent, assesses overall social functioning, incorporating academic, peer, and family functioning (Weissman, 1999). It has strong psychometric properties in depressed adolescents (Garber et al., 1988).

Physical Illness Functioning. The physical functioning and general health subscales from the Child Health Questionnaire parent (CHQ-50) and child (CHQ-87) versions measures physical health (Landgraf et al., 1996). The physical functioning subscale assesses physical limitations due to health-related problems whereas the general health subscale measures subjective assessments of overall health. The CHQ has shown adequate reliability in clinical samples (Landgraf et al., 1996).

Illness Severity. The Pediatric Crohn's Disease Activity Index (PCDAI) (Hyams et al., 1991) measures CD severity, and the Clinical Score of Kozarek (CSK) (Kozarek et al., 1989) measures ulcerative colitis severity. Both scales have continuous and categorical severity scores. The PCDAI is a validated instrument that includes (1) self-report including pain and functional disability, (2) clinician-rated severity, and (3) objective data (e.g., laboratory tests, weight, and height). The CSK is calculated based on patient subjective report and objective extraintestinal manifestations. Correlations between two independent physician raters' scores who were blinded to treatment status for all subjects were 0.97 for the PCDAI and 0.91 for the CSK (both p values <.001).

Illness Coping. Adolescents created written narratives in response to the question "How do you cope with having an IBD flare?" The first author categorized responses as primary or secondary control coping.

Perceived Control. The 24-item self-report Perceived Control Scale assesses locus of control across academic, social, and behavioral contexts (Weisz et al., 1994) and has been used to predict changes in depressive symptoms (Weisz et al., 1993).

Satisfaction and Helpfulness. Parents and adolescents rated therapy satisfaction and helpfulness on a 7-point scale anchored at one end by 1 = very unhappy or unhelpful and at the other end by 7 = very happy or helpful. Adverse events, session attendance, and homework adherence were tracked and recorded weekly.

Statistical Analyses

Paired samples t tests were used to assess differences between pre- and posttreatment continuous variables. One-tailed significance tests were conducted because hypotheses were unidirectional. All variables met assumptions for parametric tests. Eta-square statistics are reported with each analysis involving a continuous variable to indicate effect size (Rosenthal and Rosnow, 1991). According to Cohen (1988), 0.01 = small effect size, 0.06 = moderate effect size, and 0.14 = large effect size.

RESULTS

Sample Characteristics

Subjects were four males and seven females with a mean age of 14.8 (SD = 1.7) years. Nine patients identified themselves as white and two as African American. Seven adolescents lived in two-parent families, and four in single-parent homes. Annual family income ranged from $15,000 to >$90,000.

Four adolescents had ulcerative colitis and seven had Crohn's disease, with mean illness duration of 31.9 months (range 10–65). At baseline, IBD severity based on either the PCDAI or CSK was rated as inactive (n = 6), mild (n = 2), or moderate/severe (n = 3), with four subjects on prednisone (range 2.5–30.0 mg/day). At post-treatment, IBD disease severity was rated as inac-

tive (n = 9), mild (n = 1), and moderate/severe (n = 1), with three subjects on prednisone. IBD severity ratings were available for 91 of the 102 patients screened for depression (inactive, n = 44; mild, n = 31; moderate/severe; n = 16). Associated medical diagnoses were obtained from medical records (cardiomyopathy, n = 1; migraine headaches, n = 1). No subjects were on psychiatric medications during the trial.

Depressive Diagnoses

Before treatment, nine adolescents met *DSM-IV* criteria for current major depression and two for minor depression. The most common symptoms were depressed mood (100%), anhedonia (100%), sleep disturbance (91%), and fatigue (91%). Comorbid current psychiatric diagnoses included specific phobias (n = 2), generalized anxiety disorder (n = 2), eating disorder (n = 1), and verbal learning disorder (n = 1). Past psychiatric diagnoses included posttraumatic stress disorder (n = 2), major depression (n = 2), and separation anxiety disorder (n = 1). Eight subjects had a parental family history of depression. None of the adolescents had been on psychotropic medication; two subjects had previously received supportive psychotherapy.

After treatment, 10 adolescents no longer met criteria for any depressive disorder, and one subject met criteria for minor depression.

Pre- and Posttreatment Outcomes

Table 2 outlines pre- and posttreatment scores for each measure. Significant improvements were found for parent and child CDI reports, K-SADS-PL depressive items, CGAS, and Social Adjustment Scale-Self Report-SR. Figure 2 illustrates change in depression severity over time using baseline, mid-treatment, and posttreatment self-reported CDI scores. Adolescents reported significant changes on CHQ subscales of general health and physical health, whereas parents noted significant change only for the general health subscale. There was no significant change in IBD severity. Coping responses moved from exclusively primary control to combinations of primary and secondary control. Perceived Control Scale scores increased significantly from baseline (mean = 59.45) to post-treatment (mean = 66; $t_{10} = 3.7$, $p = .004$). Perceived control over social outcomes improved significantly ($p = .008$), whereas academic and behavior outcomes were not significant.

Satisfaction and Helpfulness

Satisfaction and helpfulness ratings were high (Table 3). The adolescents' ratings of the family sessions were lower than for the other items, apparently due to an outlier who rated these sessions very negatively in the context of an extremely conflicted interparental relationship.

TABLE 2

Paired t Test Comparisons of Pre- and Posttreatment Scores on Outcome Variables for 11 Adolescents With IBD and Depression

Outcome Variable	Pre Treatment Mean (SD)	Post Treatment Mean (SD)	t Value	Effect Size
Depressive symptoms				
CDI child	16.18 (4.21)	4.82 (4.75)	7.33***	0.84
CDI parent	19.00 (7.33)	8.09 (4.11)	4.27**	0.65
K-SADS-PL (no. of depressive items)	5.64 (1.21)	1.09 (1.14)	10.47***	0.92
Global psychological functioning				
CGAS	53.27 (6.92)	69.55 (7.93)	6.60***	0.81
Social functioning				
SAS-SR child	2.14 (0.54)	1.76 (0.38)	3.40**	0.54
Illness functioning-CHQ				
General health-child	39.69 (24.41)	59.38 (26.49)	3.53**	0.55
General health-parent	35.46 (16.23)	45.00 (15.38)	2.42*	0.37
Physical functioning-child	83.17 (12.97)	90.24 (10.90)	2.81*	0.44
Physical functioning-parent	60.56 (30.59)	80.56 (19.64)	1.57	0.20

Note: CDI = Children's Depression Inventory; K-SADS-PL = Schedule for Affective Disorders and Schizophrenia for School-Age Children, Present and Lifetime version; CGAS = Children's Global Assessment Scale; SAS-SR = Social Adjustment Scale-Self Report; CHQ = Child Health Questionnaire.

* $p < .05$; ** $p < .01$; *** $p < .001$.

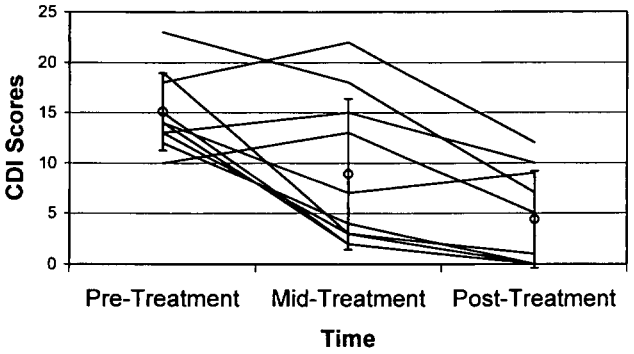

Fig. 2 Change in Children's Depression Inventory scores over time. Mean pretreatment to posttreatment CDI ratings ($t = 7.33$, $p < .001$). Open circles and vertical lines represent group means ± SD. Note: $N = 10$ due to missing mid-treatment scores for one subject whose pre- and posttreatment CDI scores were 24 and 9, respectively.

DISCUSSION

This study demonstrated that a manual-based CBT approach with physical illness narrative, social skills enhancement, and family educational components is a safe, feasible, and promising approach to treat physically ill adolescents with depression. The PASCET-PI had high satisfaction and helpfulness ratings both overall and in terms of its individual components, no adverse events, and high subject adherence. Adolescents' perception of their general health and physical functioning improved, although illness severity measures remained unchanged.

The PASCET-PI showed promising (0.65–0.92 effect size on depressive measures) effects with the reduction in depressive symptoms being robust across reporter (child and parent) and assessment method (questionnaire and interview). Ten of 11 subjects moved from major or minor depression at baseline to no depressive disorder after treatment, and there were significant improvements in combined global psychological and social functioning. The open-trial design did not permit evaluation of the contribution of uncontrolled variables (e.g., passage of time, regression to the mean, assessment bias, participant expectations, therapist-specific effects, prednisone taper, placebo response) to these changes. Improvement could also be related to changes in IBD course or medications (Bender et al., 1991; Ling et al., 1981). However, IBD course remained relatively stable in nine subjects, and only four subjects were on steroids, suggesting that these factors are unlikely to account for all the improvement.

Although all subjects showed improvement in depressive symptoms, different trajectories of improvement were apparent. Three subjects showed increased depressive symptoms at mid-treatment before ultimate improvement at study end point (Fig. 2). This suggests that there may be different pathways to remission and/or differences in baseline subject characteristics contributing to the treatment course. Only larger scale, randomized studies can determine whether these effects are due to CBT and evaluate the extent to which moderators of treatment response in uncomplicated depression (i.e., comorbid anxiety, parental psychopathology, and stressful events) hold true for physically ill adolescents (Brent et al., 1998).

The improvements in adolescents' perceptions of their physical health suggest a positive psychological effect that may buffer later physical illness stress. Although objective measures of physical health (e.g., school attendance and activity participation) were not assessed, these improvements are consistent with adult findings of functional disability decreases without change in disease severity (Jantschek et al., 1998; Schwarz and Blanchard, 1990; Walker et al., 1996). A larger sample size or longer follow-up period may be needed to assess CBT's effectiveness in reducing IBD pathophysiology. Further, relatively mild IBD severity ratings at baseline may account for the lack of significant IBD improvement in this sample, although the percentages of inactive, mild, and moderate/severe disease were consistent with those in the entire group screened. Studies employing coping skill enhancement (Miklich et al., 1977, Milne et al., 1986) and pharma-

TABLE 3
Ratings for Perceived Satisfaction with PASCET-PI Therapy for 11 Adolescents With IBD and Depression

	Parent		Child	
Item	Mean	SD	Mean	SD
General helpfulness	5.91	0.83	5.45	1.21
Helpfulness of the focus on physical illness	5.73	0.65	5.64	1.12
Helpfulness of family sessions	6.00	0.63	4.73	1.79
Overall satisfaction	6.64	0.51	5.64	1.12
Satisfaction with child's treatment progress	6.27	0.79	6.00	1.10

Note: Ratings based on a scale ranging from 1 to 7 with 1 = not helpful at all and 7 = very helpful.

IBD = inflammatory bowel disease; PASCET-PI = Primary and Secondary Control Enhancement Training–Physical Illness.

cological intervention (Kast and Altschuler, 2001) support the premise that improved modulation of internal stress can alter sympathetic-immune system interactions, underlining the need for larger scale studies investigating the relationship between depression, coping styles, stress, physical illness perception, and disease process.

Subjects' helplessness decreased and range of coping mechanisms increased. Adolescents reported increases in perceived control, particularly in social situations, which may have translated into social functioning improvement. These findings are consistent with those of studies supporting an association between perceived control and physical illness adaptation (Band and Weisz, 1988; Peterson, 1989; Worchel et al., 1987). Compas (1987) postulated that adaptive coping strategies may differ from one situation to another based on the degree to which stressors are controllable. This hypothesis is supported by studies showing that secondary control strategies are more helpful for low–controllability stressors (e.g., childhood leukemia) as opposed to relatively controllable stressors (e.g., diabetes mellitus) (Band and Weisz 1990; Weisz et al., 1994). Randomized, controlled trials are needed to assess potential mediators of treatment response to CBT (e.g., control strategies, attributional style, or therapy process elements independent of CBT content).

Although this study did not assess the unique contribution of different components of the PASCET-PI, we postulate that the treatment effects are related to the incorporation of three related elements: social skills enhancement, illness narrative, and family involvement at skill training and comprehension levels. Extensive pilot work with families indicated specialized needs of physically ill teens that are addressed by these treatment components as part of the detailed manual-based intervention. This approach was consistent with Weisz's (2004) deployment focused model of intervention development and similar to that undertaken by Mufson et al. (1994) in adapting interpersonal psychotherapy to use with depressed adolescents. The high treatment completion rate appeared related to (1) targeting skills specific to problems delineated by the adolescent and his/her family, (2) providing flexible session formats (i.e., allowing for telephone sessions or covering two coping skills at once if a session was missed), (3) setting skills at developmentally appropriate levels and reinforcing skill acquisition (Weisz and Hawley, 2002), and (4) involving parents as developmentally appropriate. The inclusion of these factors is supported by studies highlighting illness education, behavioral reinforcement, family supports, and problem-solving approaches as important (Thienemann et al., 2001; Varni et al., 2000). We were also able to incorporate treatment into the adolescents' IBD management plan and capitalize on strong physician–family relationships. Finally, the "toolbox" approach—implementing only those cognitive-behavioral skills most relevant to each adolescent's problem (Weisz et al., 1997)—enabled successful application of the intervention across a diverse sample.

Limitations

This was an open trial study subject to the limitations of no control group. Posttreatment effects, however, were measured by trained individuals blinded to treatment status whenever possible. However, patient recruitment in an outpatient tertiary medical center and the exclusion of severe depressions may limit generalizing the results to patients with severe medical or psychiatric illness. Given the small sample size, there was no control for changes in IBD medications during the course of the CBT. Only one therapist provided treatment, thus limiting potential generalizability of findings. Finally, the short-term nature of the study precludes assessment of long-term outcomes. Previous CBT studies have shown that depressive symptoms may return unless maintenance sessions are added (Clarke et al., 1999).

Clinical Implications

These results represent a encouraging preliminary step in the development of a promising manual-based CBT approach to treat depression in physically ill adolescents. This study's strengths lie in the careful identification of depression in adolescents with IBD and the assessment of a nonpharmacological treatment on both depression and physical illness parameters. Despite the inclusion of adolescents with psychiatric comorbidities and differing IBD courses, a significant pre- to posttreatment improvement was still found. Thus, this study lays the groundwork for future randomized comparison studies assessing the effectiveness of PASCET-PI in treating and preventing depression in physically ill youths. A critical challenge will be using

manual-based therapy in a controlled group design while sufficiently individualizing treatment for each adolescent. Future research will also investigate potential mediators and moderators of treatment effects and focus on developing interventions that are easily translated to medical pediatric settings.

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Trichotillomania in Childhood: Case Series and Review Yong-Kwang Tay, MD, Moise L. Levy, MD, Denise W. Metry, MD

Trichotillomania is a relatively common cause of childhood alopecia. We report our observations of 10 children with trichotillomania seen over a 2-year period at Texas Children's Hospital. Patient ages ranged from 9 to 14 years (mean: 11.3 years) with an equal gender ratio. The duration of hair-pulling ranged from 1 month to 10 years (median: 4.6 months). The scalp alone was affected in 8 cases, the scalp and eyelashes in 1 case, and the eyelashes alone in 1 case. The frontal scalp and vertex were the most common sites affected. Associated findings included nail-biting in 2 cases, "picking" of the skin in 1 case, and headaches in another case. Noted precipitating factors in 3 patients included "stress" at home and school. Associated psychopathology included major depression in 1 case, attention-deficit/hyperactivity disorder in 1 case, and an "anxious and nervous personality" in 1 case. The most important differential diagnosis to exclude from trichotillomania is alopecia areata, which was seen concomitantly in 1 patient and preceded the onset of hair-pulling by 11 months. Eight patients were referred to a child psychologist for additional management, of which 2 were subsequently treated with antidepressant medication. Trichotillomania is a disorder of multifaceted pathology, and an interdisciplinary approach to management is often helpful. The common prepubertal age of onset provides an important opportunity for the pediatrician to lend support to affected patients and their families. **Pediatrics** 2004;113:e494–e498.

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