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Family-focused Treatment for Childhood-onset Depressive Disorders: Results of an Open Trial

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ABSTRACT
Study objectives were to develop a treatment manual for a family-focused intervention for depressed school-aged children, evaluate its feasibility and acceptability, and complete an initial open trial to examine treatment effects. Nine young people meeting criteria for depression (major depressive disorder, dysthymic disorder, or depression not otherwise specified), completed a 12-week family intervention, and were assessed immediately and at 9 months following treatment completion. The intervention presented an interpersonal model of how depressive symptoms are maintained, and emphasized developing family strategies for altering interpersonal processes, supporting recovery and enhancing resilience. At posttreatment 66% of the young people had recovered from their depressive episodes; by 9 months posttreatment 77% had recovered. Significant improvements in global functioning were noted. There were no relapses in the follow-up period and no instances of suicidal behavior during the intervention or follow-up. Mothers’ and fathers’ Child Behavior Checklist reports and children’s self reports indicated significant symptom reductions. Exploratory analyses suggest particular benefit for young people with parents high in criticism. The family-focused intervention for childhood-onset depression demonstrated gains similar to those seen with empirically supported treatments for depressed adolescents and superior to those seen in naturalistic studies of depression outcomes. This favorable risk/benefit profile supports the value of a randomized controlled trial.

KEYWORDS
childhood, depression, expressed emotion, family therapy, treatment development

EPIDEMIOLOGICAL DATA indicate that 1–3% of prepubertal children suffer from major depressive disorder and rates of dysthymic disorder and minor depression are even higher (Angold & Costello, 2001; Birmaher et al., 1996; Fleming & Offord, 1990;
Depression prevalence is markedly increased in pediatric settings and among children referred for psychiatric treatment (Asarnow et al., 2005; McCracken, 1992). Depression rates increase dramatically during adolescence (Angold & Costello, 2001), with some studies suggesting that 15–20% of children may experience...
depressive episodes by age 18 (Kessler, 2002; Lewinsohn, 2002; Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993).

Extant studies suggest that early onset depression may presage a particularly pernicious course with high levels of chronicity, severity and relapse (Geller, Zimmerman, Williams, Bolhofner, & Craney, 2001; Harrington et al., 1990; Kovacs, 1998; Kovacs et al., 1984; McCauley & Myers, 1992). Longitudinal research examining preadolescent young people suggests a median duration for major depression of 9 months and for dysthymia of 3.9 years (Kovacs, Obrosky, & Gatsonis, 1997). Early onset depression is frequently accompanied by substantial social impairments, both during and after resolution of depressive episodes (Puig-Antich et al., 1985a, 1985b) and may be predictive of chronic problems during adolescence as well as adult depression (Geller et al., 2001; National Institute of Mental Health [NIMH], 1990). These findings underscore the need for effective treatment approaches for depressed preadolescent children.

Numerous studies have documented the importance of family attitudinal and interaction patterns for depressed children (for reviews see McCauley & Myers, 1992; Tompson, McKowen, & Asarnow, in press). First, among depressed children, family stress has been found to be positively associated with initial episode length and negatively with social competence at 3-year follow-up (McCauley et al., 1993). Second, depressed children whose parents are rated high in expressed emotion (EE) demonstrate significantly higher rates of relapse and nonrecovery during the first year after hospitalization than children returning to low EE homes (Asarnow, Goldstein, Tompson, & Guthrie, 1993). Third, when compared to nondepressed psychiatric and control subjects, depressed children are likely to be more negative and guilt-inducing toward their parents during laboratory-based family interaction tasks (Hamilton, Asarnow, & Tompson, 1999) and demonstrate more negative family relations on a variety of other measures (Kaslow, Deering & Ash, 1996). Fourth, impaired parent–child relationships may mediate the relationship between maternal and child depression (Hammen, 1991), and maternal and child depression may be temporally linked (Hammen, Burge, & Adrian, 1991). Fifth, studies of the familiality of depressive disorders indicate that familial loading may be even more substantial among children (Puig-Antich et al., 1989) and adolescents with major depression (Kutcher & Marton, 1991) than among adults with major depression. Young people with depression are likely to have a depressed parent. In sum, these studies support a model in which negative interpersonal interactions, particularly with family, and negative life experiences contribute to the maintenance of depression. Collectively these studies strongly suggest that a family treatment approach, which can address disorders in multiple family members, may decrease risk of depressive episodes in the family as a whole. Furthermore, depression in childhood often presents with additional comorbid conditions, particularly anxiety and disruptive behavior disorders (Birmaher et al., 1996). Hence, family-based treatments which improve family functioning and increase coping skills, are capable of addressing the range of problems these children are likely to present in treatment.

However, the limited existing trials of family-based treatments for depressed adolescents provide contradictory evidence as to their value. The two most strongly supported psychosocial interventions for child and adolescent depression – cognitive-behavioral therapy (CBT; Brent et al., 1997; Clarke, Rohde, Lewinsohn, Hops, & Seeley, 1999; Lewinsohn, Clarke, Hops, & Andrews, 1990) and interpersonal therapy (IPT; Mufson et al., 2004; Mufson, Weissman, Moreau, & Garkinkel, 1999; Rosselló & Bernal, 1999) – are group- or individually based treatments (Asarnow, Jaycox, & Tompson, 2001). Systemic-behavioral family therapy was found to be significantly less effective than CBT (Brent et al., 1997) and adding a family component to group CBT offered no
clear advantage over group CBT alone (Clarke et al., 1999; Lewinsohn et al., 1990). Alternatively, Diamond and colleagues (Diamond, Reis, Diamond, Siqueland, & Isaacs, 2002; Diamond and Siqueland, 1995, 1998) have developed an attachment-focused family treatment model, and results of a small treatment development trial are promising. Overall, the efficacy and utility of specific family-based models are still being evaluated among depressed adolescents.

Among preadolescents, studies evaluating interventions designed to ameliorate depression have included young people with high levels of depressive symptoms, but no trials to date have focused on young people with diagnosed depression. Of those examining school-aged young people with high depressive symptoms, six have demonstrated improvement (Asarnow, Scott, & Mintz, 2002; Jaycox, Reivich, Gillham, & Seligman, 1994; Kahn, Kehle, Jensen, & Clark, 1990; King & Kirschenbaum, 1990; Stark, Reynolds, & Kaslow, 1987; Weisz, Thruber, Sweeney, Proffitt, & LeGagnoux, 1997). Most of the studies focus on CBT. However, it is not yet clear whether depression-specific treatments show significant advantage over nonspecific treatments in this age group (Asarnow et al., 2001). Involvement of families in treatment is normative for school-aged children with most interventions including some sessions with parents.

Despite the promise of family-based approaches and some evaluation of these among depressed adolescents, more extensive family-based treatments for depression in preadolescents are still in the development stage (Kaslow, Baskin, & Wyckoff, 2002). Preadolescents are developmentally more embedded in their family structures than adolescents, and family interventions in this developmental stage may be particularly likely to result in greater generalization of treatment gains. Kaslow and colleagues (Kaslow et al., 2002; Kaslow & Racusin, 1988; Schwartz, Kaslow, Racusin, & Carton, 1998) have developed a model reliant on family systems theory, interpersonal therapy models, and developmental psychopathology perspectives. The treatment goal is to ameliorate dysfunctional family interactional patterns that may contribute to the maintenance of a child’s depressive symptoms.

The goal of the current project was to construct a developmentally sensitive family-based strategy targeting school-aged children with depression and their families. First, it drew on general principles from family-focused treatment approaches (Jacobson, Dobson, Fruzzetti, & Schmaling, 1991; Koerner, Prince, & Jacobson, 1994; Miklowitz & Goldstein, 1997), providing expanded psychoeducation and skills building within a family context. Second, given the success of CBT strategies in both treating depressed adolescents and school-aged children with depressive symptoms, cognitive-behavioral principles were integrated into the family-focused treatment (Asarnow et al., 2002; Lewinsohn, Rohde, Hops, & Clarke, 1990). Thus, the Family-Focused Intervention (FFI) manualizes an optimal standard of care for depressed children based on cognitive-behavioral and family systems models.

The specific aims of this treatment-development study included preliminary testing of a manual for the family-focused treatment, evaluating treatment impact across multiple domains of functioning, and providing preliminary examination of potential change mechanisms.

Method

Participants
Children and families were recruited through advertisement, referral from community clinicians, and through Children’s Hospital Boston’s Mood Disorders Program. When parents contacted study staff, a DSM-IV depression checklist was completed. If the child
met depression criteria by parental report, the family was invited for evaluation. Inclusion criteria were that:

- the child was aged between 8 and 12 years;
- the child met DSM-IV criteria for either Major Depressive Disorder (MDD), Dysthymic Disorder or Depressive Disorder Not Otherwise Specified;
- that the child showed no evidence and parents reported no history of mental retardation, current chronic medical conditions, organic brain syndromes, psychotic symptoms, or active suicidal intent;
- the child had been living with at least one biological parent for the last year;
- the family was English-speaking;
- both the child and parent(s) signed assent/consent documents.

In addition, children participating in the study could not be receiving another psycho-social treatment for depression during the 3-month intervention phase. Furthermore, if on psychotropic medication, the child had to be stabilized on the medication for at least 3 months prior to entering the study protocol.

Sixteen children and their parents were evaluated for participation in the open trial/treatment development phase. Five children did not meet diagnostic criteria and were referred to other treatment providers. Eleven families met criteria for the open trial. One family dropped out before treatment began, following a report for child neglect, and another family attended only five sessions before dropping out. Follow-up data were not available for either family. Thus, 9 children and their families completed the treatment and have follow-up data.

The children ranged from 9 to 14 years of age (\(M = 11.43; SD = 1.67\)) and included 5 boys and 4 girls. Six families (67%) were Caucasian, 2 (22%) were African American, and 1 was Latino. Hollingshead ratings (\(M = 2.67; SD = 1.2\)) indicated a primarily middle- and working-class sample. Although the predominant diagnosis was dysthymia (\(n = 4\)), 3 children met criteria for MDD, and 2 were diagnosed with depression NOS. Most children presented with comorbid conditions, including social phobia (\(n = 2\)), panic disorder with agoraphobia (\(n = 1\)), specific phobia (\(n = 1\)), obsessive-compulsive disorder (\(n = 1\)), separation anxiety (\(n = 1\)) and oppositional defiant disorder (\(n = 2\)). Although not specifically evaluated, some subjects reported histories of verbal (\(n = 1\)) and nonverbal (\(n = 2\)) learning disabilities. Seven (78%) of the nine cases were intact families, and two were blended families. In all intact families both parents took part in at least some of the treatment sessions.

**Evaluation**

Participating families were administered a battery of questionnaires and interviews prior to the beginning of treatment, immediately following treatment and 9 months after treatment completion. The initial assessment focused on symptoms and functioning within the last year, but reviewed diagnoses across the lifespan. Subsequent assessments focused on the interval since the previous assessment. Foci of evaluation are described below.

**Diagnostic and symptoms measures** In evaluating clinical status both diagnostic and dimensional symptom measures were included. DSM-IV diagnoses were made based on information derived from the Schedule for Affective Disorders and Schizophrenia for School-aged Children (K-SADS-PL; Kaufman et al., 1997) which was administered to the parent about the child and to the child about him/herself. In addition to the DSM-IV diagnoses, depression severity ratings ranging from 0 to 6 were made based on the
number and severity of symptoms obtained on the K-SADS-PL. A rating of 0 indicated no clinical or subclinical symptoms of depression; a rating of 6 indicated symptoms of a major depressive episode with significant impairment; a rating of 3 or higher was considered clinically significant. Interrater reliability for this scale was excellent, with intraclass correlation coefficients ranging from 0.96 to 0.97. Parent reports of symptoms were assessed using the Child Behavior Checklist (CBCL; Achenbach, 1991). Children’s reports of depressive symptoms were evaluated using the total score from Depression Self-Rating Scale (DSRS; Asarnow & Carlson, 1985).

Psychosocial functioning The Global Assessment of Functioning Scale (GAF; Schaffer et al., 1983) was used as a measure of psychosocial functioning. GAF ratings range from 0 to 100 and were based on all information obtained in the K-SADS-PL interviews. Interrater reliability of GAF ratings was excellent (ICC = 0.99).

Potential change mechanisms Two potential mechanisms of change were examined in this study: Children’s cognitive styles and family functioning.

Two self-report measures of children’s cognitive style were included. First, the 48-item Children’s Attributional Style Questionnaire (CASQ; Seligman et al., 1984) assessed the degree to which children explained both positive and negative events as internal, global, and stable. Three scores were derived from the CASQ. The positive and negative composites consist of the summation of all items inquiring about positive events and negative events, respectively. The positive composite is then subtracted from the negative composite to obtain the overall attributional style score. Higher scores on the positive composite and overall score represent greater optimism, whereas higher scores on the negative composite represent greater pessimism. Second, children’s cognitive errors (catastrophizing, overgeneralizing, and personalizing) were assessed over three content areas – social, academic and athletic – using the Children’s Negative Cognitive Error Questionnaire (Leitenberg, Yost, & Carroll-Wilson, 1986). The total score on this measure was obtained by summing all of the items, with higher scores representing greater instances of negative cognitive errors.

Family functioning measures included the cohesion, expressiveness and conflict scales of the Family Environment Scale (FES; Moos & Moos, 1981) and the five-minute speech sample measure of expressed emotion (FMSS-EE). Each participating family member (i.e. child, mother, father) completed the FES scales independently. The FMSS-EE was obtained in an individual session with each parent. Parents were instructed to speak for five minutes (without any interruptions) about the target child and how they get along together. Audiotaped recordings of the FMSS were scored by a trained rater who was blind to diagnostic and other information. Criteria for scoring EE from the FMSS were developed by Magana et al. (1986). A high FMSS-EE rating was based on a high score on either of two dimensions: criticism and emotional overinvolvement (EOI). A high criticism score was assigned if the parent made a negative initial statement about, described a negative relationship with, or used one or more criticisms toward the child. A high EOI rating was assigned if the parent showed evidence of excessive overprotective behavior, cried during the sample, or had a combination (two or more) of statements of love/devotion, five positive remarks and/or described excessive detail about the past. Ratings were completed by an independent coder blind to diagnosis and treatment status.

Treatment Each family completed 12–16 ($M = 14$) 1-hour treatment sessions over a 3–5 month period. All families were offered booster sessions, and two families chose to attend a
booster (5 months and 6 months posttreatment). All treatment sessions were conducted by a licensed clinical psychologist with training in family treatment and childhood depression (MCT or CBP).

**Goals of the FFI** The treatment integrated family systems perspectives and behavioral/cognitive-behavioral interventions and targeted family interactional patterns as the focus of treatment. Using the concept of emotional spirals, families were introduced to the idea that interpersonal processes are related to mood states, providing a rationale for intervening in these processes. Families were then taught skills to affect their interactional processes. While focusing on learning skills, primarily communication and problem solving, the treatment also presented families with an interactional model of how depressive symptoms are maintained and empowered them to change family interaction patterns. Throughout treatment, concepts were introduced slowly to help reduce children’s anxiety and to increase generalization of both skills and concepts. First, educational material was presented using handouts. Second, family members practiced, through role plays, discussion, or structured games, the implementation of these concepts generally. Third, through further role plays or exercises, family members were aided in applying these concepts to their own family interactions. Finally, homework was assigned to increase generalization of the concepts to real-life situations.

Goals of the intervention included: Educating family members about depression; focusing on the interpersonal nature of depression; teaching parents and children skills to enable them to communicate and solve problems more effectively; practicing new ways of relating within the family system; improving positive communication and interactions to help family members provide one another with more effective support; and helping families solve specific family problems.

**Tailoring treatment for depressed school-aged children and their families** Careful attention was paid to constructing a developmentally appropriate and informed intervention that could support durable behavior change and generalization across multiple settings. Four specific features of the intervention are noted in this regard: First, because school-aged young people may be uncomfortable talking about family problems, ideas were presented slowly. Handouts were used to describe concepts; families were provided with numerous hypothetical examples; once family members became comfortable with the concepts, they were asked to come up with examples from their own family. Second, exercises were presented as ‘games’ initially to make them more palatable to school-aged young people and increase the likelihood that these ‘games’ could become ‘family tools’ for combating depression after treatment was over. For example, giving positive feedback was initially presented as a game in which participants drew cards with positive statements written on them from a ‘hat’ and had to give others the (sometimes silly) feedback. In previous work implementing a cognitive-behaviorally focused family intervention (Asarnow et al., 2002) depressed school-aged children preferred the behavioral aspects of CBT over its cognitive aspects, and thus we were careful to emphasize active, behavioral strategies in this family-based model. Third, because of limits on cognitive development, school-aged children often need concrete reinforcement and may have difficulty providing concrete positive feedback to others. Thus, we included the idea from Rotheram-Borus, Goldstein, and Elkavich (2003) to use tokens (poker chips) as a message that within the family context some statement, idea, or action was valued. Thus, tokens were used throughout the treatment by the therapist and all family members to express appreciation and give positive feedback. This expression of appreciation was further encouraged by having family members take home a number of chips each week.
with the goal of ‘giving all of them away’ to other family members prior to the next session. Fourth, session handouts used simple language, and skills were broken down into small components that could be mastered in a step-wise fashion. For example, giving positive feedback consisted of two parts – identifying positive behavior (referred to as ‘catching upward spirals’) and giving feedback (referred to as ‘keeping upward spirals going’).

All sessions except for the first two rapport-building/educational sessions (described later), included the school-aged young person and his/her parent(s). This decision to include parents and child, rather than the whole family, was due to the emphasis on parent–child interactions. However, when sibling conflicts were a particular source of stress, siblings were invited to a few sessions. These sessions focused on introducing the interpersonal model, identifying downward spirals between siblings and problem solving to reduce conflict. Efforts were made to keep these sessions light and to clearly frame this issue as an interactional, rather than an individual, one.

**Implementation of FFI**  The family-focused treatment consists of five modules:

1. Rapport building and education about depression including introduction of an interpersonal model;
2. Communication training;
3. Fun activities scheduling;
4. Problem solving; and
5. Termination.

Family therapy and cognitive-behavioral goals are specified for each module. Although modules typically proceed in order, Modules 2–4 were sometimes reordered depending on the needs of particular families.

Module 1 was psychoeducational, providing families information about depression and presenting an interpersonal model for understanding how it persists. This module was conducted in two separate sessions – one with the child and one with his/her parent(s). The parent session was conducted first, and the goals were to provide psychoeducation about depression, to support their role as models and change agents for their children, to emphasize the role of ‘stress’ in perpetuating family difficulties and child problems/symptoms, and to refocus the problem from one of ‘fixing’ the child to one of helping the family to cope with stress. This session began by providing the parents feedback on the evaluation, including diagnoses, a brief conceptualization of the case (emphasizing the role of stress) and treatment recommendations. Although each conceptualization differed depending on life circumstances, comorbidity, and other factors, each included a description of the child’s symptoms, a review of stressors that might be contributing, and a model for how the symptoms came about and could be ameliorated through treatment. The therapist took special care to hear the parents’ perceptions of the child and to reflect the frustration and, often, helplessness that parents may feel. This helplessness was normalized and reframed for parents, and their power and influence in the life of their child was emphasized. Therapy was presented as an opportunity to learn skills for overcoming depression and for the parents to develop strategies for promoting the child’s recovery.

Module 1 then proceeded to an individual session with the child. In this session the therapist elicited examples of situations in which the child felt ‘happy’, ‘sad’ and ‘angry’. After eliciting a situation in which the child experienced each of these feelings, the therapist engaged the child in describing his/her feelings, behaviors and thoughts for each feeling. The child was then presented a model demonstrating how one’s own
behavior, the behavior of others, and moods are all connected. It was pointed out that moods can influence our interactions with others and how our interactions with others can influence our moods. The idea of upward and downward interactional spirals (Figures 1 and 2) was then presented to the child, examples were provided, and the child was encouraged to provide examples. Throughout, negative interactions were normalized and their role in perpetuating depression was emphasized. Finally, the rationale of treatment was clearly stated – ‘to start upward spirals and keep them going and to stop downward spirals so that everyone in the family feels better’.

The goal of the final session in Module 1 was to review the interactional model for understanding depression and the rationale for family approach to treatment with parents and child together. The therapist established the family as the treatment unit by reframing the problem as an interactional one, where by working together parents and children could help combat depression and create ways of responding within the family that would protect the child from some of the negative sequelae of stress. Children and

Figure 1. Downward spirals in families.
their families were provided information about the ways in which family and other social interactions affect mood, using the concept of emotional spirals. In downward emotional spirals (see Figure 1) negative interpersonal communication contributes to negative emotions which further contribute to negative communication and so on. In upward emotional spirals (see Figure 2) positive interpersonal interactions contribute to positive emotions which serve to further positive interpersonal interactions. Skills like good family communication and problem solving can be used to turn downward spirals upward. Families were shown pictorial examples of these escalating communication cycles, and families were asked to identify their own patterns. Normalizing these difficulties and disrupting any tendency to blame, the therapist emphasized that all families experience negative as well as positive spirals. The focus of the session was not to assign responsibility for the problems but to identify understandable patterns that occur in families when someone is depressed or confronting high levels of stress and to engender hope that family members can thus have some positive, helpful impact. The rationale of the treatment was clearly laid out – ‘to stop downward spirals and to start upward spirals’.

Module 2 – ‘Families Talking to One Another’ – took 2–3 sessions, included the child and parent(s), and focused on communication training. The module goals were to
increase the child’s assertiveness skills, to decrease depressive withdrawal and irritability, to engage the family members, and to encourage the development of empathy. During this phase family members learned to communicate more clearly and succinctly. Specific skills included giving positive and negative feedback, active listening, and making requests for behavioral change. Handouts described each of the skills to be learned. Role playing, behavioral rehearsal, and homework assignments were used to help shape these behaviors. The therapist actively modeled, directed and provided verbal reinforcement to family members during this learning process. Again, normalization was frequently used, conveying to family members that, while these skills are important, it is natural and understandable for all families to need to practice them.

Module 3 – ‘Things We Do Affect How We Feel’ – took 1–2 sessions, included the child and parents(s), and was based on pleasant activities-scheduling strategies used in CBT. Session goals were to increase positive family interactions and other positive reinforcers in the child’s environment. Each member specified several activities that made him/her ‘feel better after a rough day’. The therapist used this discussion to normalize stress, to emphasize measures that can be taken to reduce its impact and to encourage communication of needs between family members. In keeping with the family focus, all members were asked to complete worksheets detailing enjoyable activities. Family members were asked to list activities, to rate them (from 1 to 7) on how enjoyable they are, and to indicate whether these activities are engaged in alone or with others, and how often. Family members used communication exercises to ask others family members to engage in activities with them. Families were then encouraged to plan and implement several fun activities together as homework. Care was taken to help them select ‘do-able’ activities – requiring limited resources and time. Potential roadblocks were discussed and strategies were put into place to assist the family in completing this homework.

Module 4 – ‘We Can Solve Problems Together’ – took 3–4 sessions and included two sections: Problem identification and problem solving. The goals of the first section of this module were to have family members develop problem identification skills, to practice self-monitoring of emotional states, and to reframe problems as choices and opportunities to problem solve. The goals of the second section of this module were to practice conflict resolution skills and to empower the family to solve and become more flexible in approaching problems. Children and their parents were taught to identify problems, to agree on their definition, to ‘brainstorm’ possible solutions, to decide upon the optimal solution(s), and to effectively implement the solution(s). The therapist presented the family with the steps of problem solving, aided in defining the problem and evaluating the solutions, and reviewed the relative success of the implemented solution(s).

Module 5 – ‘Saying Goodbye’ – took 1–2 sessions. A problem-solving exercise was conducted to solve the problem, ‘How can you keep your new skills going?’ after ending treatment. The goals of these sessions were to practice problem solving, to encourage skill generalization, and to establish a regular family meeting. The family was praised for their hard work, progress was acknowledged, and the need for further work was planned as necessary.

Results

In examining patient outcomes, two central questions were addressed. First, did treatment participants evidence clinical change on measures of diagnosis, symptoms and functioning? Second, do theoretically important mediators of treatment effects change during treatment?
Clinical outcomes

Target outcome variables were analyzed using matched pairs t-tests and repeated measures ANOVAs. Clinical outcomes were measured both categorically (diagnoses) and dimensionally (symptoms, severity, functioning) at pretreatment, posttreatment and follow-up. Table 1 shows means for the clinical measures at each time point.

Change in diagnosis At posttreatment, 66% (6 of 9) of the children no longer met diagnostic criteria for depression-spectrum disorders, and, by 9 months posttreatment 77% (7 of 9) had recovered from depression. With recovery from depression, codiagnoses tended to resolve, except for LD (3 cases) and social phobia (1 case). Among those evidencing recovery there were no relapses within the 9-month follow-up period.

Change in symptoms Symptom change was assessed using external evaluator’s ratings, parents’ reports, and children’s self ratings. First, children in the open trial demonstrated

Table 1. Clinical and psychosocial change in a family-focused intervention

<table>
<thead>
<tr>
<th></th>
<th>Pretreatment</th>
<th>Posttreatment</th>
<th>Follow-up</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(n = 9)</td>
<td>(n = 9)</td>
<td>(n = 9)</td>
</tr>
<tr>
<td>Recovery Rate</td>
<td>0%</td>
<td>66%</td>
<td>77%</td>
</tr>
<tr>
<td>Depression Severity Rating</td>
<td>4.56 (0.73)</td>
<td>1.67 (2.00)*</td>
<td>1.67 (1.73)*</td>
</tr>
<tr>
<td>Global Assessment of Functioning</td>
<td>56.22 (7.69)</td>
<td>64.11 (9.36)*</td>
<td>73.22 (11.08)*</td>
</tr>
<tr>
<td>Depression Self-Rating Scale</td>
<td>14.44 (5.86)</td>
<td>8.11 (5.75)*</td>
<td>7.67 (6.30)*</td>
</tr>
<tr>
<td>CBCL</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Mother</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalizing</td>
<td>68.00 (5.10)</td>
<td>61.57 (10.86)**</td>
<td>57.00 (7.65)*</td>
</tr>
<tr>
<td>Externalizing</td>
<td>64.14 (8.91)</td>
<td>56.57 (10.49)**</td>
<td>54.13 (8.11)*</td>
</tr>
<tr>
<td>Total problems</td>
<td>65.86 (6.41)</td>
<td>59.29 (12.22)**</td>
<td>55.62 (7.82)*</td>
</tr>
<tr>
<td>Father</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalizing</td>
<td>60.71 (8.99)</td>
<td>53.00 (11.07)**</td>
<td>55.20 (13.20)</td>
</tr>
<tr>
<td>Externalizing</td>
<td>59.71 (9.05)</td>
<td>54.00 (9.49)**</td>
<td>47.40 (10.55)*</td>
</tr>
<tr>
<td>Total problems</td>
<td>60.14 (7.38)</td>
<td>52.40 (6.23)**</td>
<td>51.80 (7.73)*</td>
</tr>
<tr>
<td>Family Environment Scale</td>
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<tr>
<td>Mother</td>
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</tr>
<tr>
<td>Cohesion</td>
<td>6.25 (2.31)</td>
<td>6.25 (1.91)</td>
<td>6.63 (2.33)</td>
</tr>
<tr>
<td>Conflict</td>
<td>4.13 (2.70)</td>
<td>3.63 (2.88)</td>
<td>3.50 (2.00)</td>
</tr>
<tr>
<td>Expressiveness</td>
<td>5.25 (1.28)</td>
<td>5.25 (1.28)</td>
<td>5.13 (1.96)</td>
</tr>
<tr>
<td>Father</td>
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<tr>
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<td>8.17 (0.98)</td>
<td>7.60 (1.67)</td>
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<td>Expressiveness</td>
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<td>6.83 (2.14)</td>
<td>6.20 (2.28)</td>
</tr>
<tr>
<td>Child</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cohesion</td>
<td>5.88 (2.37)</td>
<td>7.50 (1.07)**</td>
<td>7.56 (1.42)**</td>
</tr>
<tr>
<td>Conflict</td>
<td>4.33 (2.29)</td>
<td>3.50 (2.93)</td>
<td>2.78 (2.39)</td>
</tr>
<tr>
<td>Expressiveness</td>
<td>5.00 (1.73)</td>
<td>4.88 (1.13)</td>
<td>4.56 (2.07)</td>
</tr>
<tr>
<td>Attributional Style Questionnaire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Composite</td>
<td>12.25 (3.85)</td>
<td>13.78 (4.84)</td>
<td>13.00 (4.96)</td>
</tr>
<tr>
<td>Negative Composite</td>
<td>8.38 (1.51)</td>
<td>8.44 (4.16)</td>
<td>8.13 (4.12)</td>
</tr>
<tr>
<td>Total</td>
<td>3.88 (5.06)</td>
<td>5.33 (8.56)</td>
<td>4.88 (8.15)</td>
</tr>
<tr>
<td>Negative Cognitive Error Questionnaire</td>
<td>54.88 (22.25)</td>
<td>47.11 (17.29)</td>
<td>43.00 (20.38)</td>
</tr>
</tbody>
</table>

* p < .01; ** p < .05.
significant improvement on independent evaluators’ depression severity ($t(8) = 4.91; p < .001$) and GAF ratings ($t(8) = 4.65, p < .01$) from pre to posttreatment. Improvements were maintained at follow-up for both depression severity ratings (pretreatment to follow-up $t(8) = 5.36, p < .001$) and GAF ratings ($t(8) = 6.07, p < .001$). Second, results reveal trends toward decreases in maternal CBCL ratings of total problems and both internalizing and externalizing dimensions from pre to posttreatment ($p = .10; p < .06; p < .10$ respectively). There were also trends toward decreases in paternal CBCL ratings for total problems ($p < .06$) and internalizing ($p < .10$) and externalizing dimensions ($p = .06$). Analysis of ratings from pretreatment to the follow-up indicate that mothers reported significant changes on the internalizing, externalizing, and total problem dimensions of the CBCL ($t(6) = 5.62, p < .001; t(6) = 4.84, p < .001; t(6) = 6.07, p < .001$, respectively). From pretreatment to follow-up, fathers reported significant decreases on the externalizing ($t(4) = 2.76, p < .05$) and total problems dimensions ($t(4) = 2.96, p < .05$) on the CBCL. Finally, children demonstrated significant decreases in their self-rated symptoms on the DSRS ($t(8) = 3.80; p < .01$) from pretreatment to posttreatment, and these changes were maintained in the longer follow-up period ($t(8) = 3.54, p < .01$).

**Exploratory analyses**

Preliminary data were evaluated on two potential change mechanisms: Change in the family environment and changes in children’s cognitive style. Paired samples $t$-tests were used to compare pre and posttreatment scores.

**Family functioning measures** Changes in the family environment were evaluated using two measures. First, changes on the FMSS-EE measure were evaluated. At pretreatment 75% (6 of 8) of mothers and 37% (3 of 8) of fathers were rated high EE. In one family the mother did not participate and in another the father did not participate. A family was considered high EE if either parent was rated as high EE. Six of the 9 families were high EE and 3 were low EE at pretreatment. At posttreatment 25% of mothers (2 of 8) and 17% (1 of 7) of fathers who participated in the evaluation remained high EE; 2 families were high EE at posttreatment. Of those children with families rated high EE pretreatment 100% recovered from depression. In contrast, only one (33%) of the families with low pretreatment parental EE recovered. By the final follow-up, one mother remained high EE, and all fathers were rated low EE. Second, participants’ ratings on the Cohesion, Conflict and Expressiveness scales of the FES were compared from pretreatment to both posttreatment and final follow-up. There were no changes in mothers’ or fathers’ ratings over time; however, children reported significant increases in cohesion ($t(7) = -2.39; p < .05$) at posttreatment and follow-up ($t(7) = 2.38, p < .05$). There were no changes in their reports of family conflict or expressiveness.

**Children’s cognitive style** No significant differences were found for any scores obtained from the CASQ or the Children’s Negative Cognitive Error Questionnaire.

**Discussion**

Little data exist to guide treatment of depression in the developmentally sensitive preadolescent period. This manuscript presents the rationale, treatment model and preliminary efficacy data for the family-focused intervention for school-aged young people with depression. These preliminary data are encouraging in several ways. First, this intervention was highly acceptable to families; the vast majority of families offered this type of treatment completed the protocol. These findings are in contrast to earlier...
work on systemic therapy for depression in adolescents (Brent et al., 1997), where treatment drop-out was high. During late childhood young people are still strongly embedded within family structures, and many tasks of development are negotiated within these structures. A family-based model may be particularly appropriate for school-aged children. During adolescence, as young people focus increasingly on the development of peer and intimate relationships, a family model may be less inviting both to the young people and their parents. The limited drop-out in this sample suggests that families can be engaged in a family-based treatment model with their preadolescent, depressed children. Second, such a family-based intervention was associated with recovery from mood disorder and associated syndromes. Two-thirds of participants recovered in the 3 months of treatment; and three-quarters within 9 months post-treatment. These rates are consistent with published studies of the efficacy of CBT (Brent et al., 1997; March et al., 2004) and Interpersonal Therapy for depression in adolescence (Rosselló & Bernal, 1999; Mufson et al., 1999, 2004) and exceed recovery rates for published studies of the efficacy of antidepressant medications that included samples of young people between 8 and 12 years of age (Cheung, Emslie, & Mayes, 2005). Importantly, with the FFI approach anxiety and oppositional syndromes tended to resolve with resolution of depression. This may speak to the potential of a family-based approach which focuses on enhancing family support and coping. This less depression-specific approach may be particularly useful given the very high level of comorbidity among depressed children. Third, follow-up data revealing sustained improvement and no relapses over the 9-month follow-up period among treatment responders suggest some durability in treatment effects. Treatment gains, as reflected in diagnoses, symptoms and global functioning, were maintained 9 months following treatment completion, although longer follow-up is needed to further clarify the durability of treatment gains. Fourth, there were no adverse events during the implementation of the study protocol or during follow-up.

Most interventions for depressed adolescents and school-aged children include some family education components; however, this intervention is relatively unique in its focus on working directly with young people and their parents to enhance family functioning. These promising results are consonant with other recent applications of family-based treatments for school-aged children with internalizing disorders (Barrett, Dadds, & Rapee, 1996; Flory, 2004). Emerging results with different types of parent/family interventions support the value of family participation in treatment with school-aged children with depressive and anxiety disorders.

It is important to note that this is a preliminary treatment development study with a small sample size aimed at providing preliminary data on treatment impact, feasibility, acceptability and safety; a randomized controlled trial is needed to clarify treatment efficacy. Due to the preliminary nature of the study and limited sample size, intent to treat analyses were not appropriate. Although our response rates are similar to those of other evidence-based treatments and superior to those seen in naturalistic or placebo control studies, based on these data we cannot determine whether our results are due to our intervention or represent spontaneous remissions from depression. The four published randomized clinical trials of antidepressants that included children under age 12 years reported high placebo response rates, ranging from 33 to 53% (Cheung et al., 2005) and underscore the importance of control conditions in this population. Meta-analytic studies suggest modest to large treatment effects with average effect sizes ranging from 0.48 (Weisz et al., 1995) to 0.92 (Weisz, Weiss, Alickie, & Klotz, 1987) for therapy with school-aged children. Our ongoing larger trial comparing this family intervention to a treatment-as-usual condition will provide important data on the magnitude of treatment effects.
Formal analyses of predictors of treatment efficacy were not appropriate given our sample size. However, 100% of families in which parents were rated high EE at the pretreatment evaluation recovered after treatment versus 33% of those children with low EE parents. This suggests that parental EE may be a moderator variable and useful for identifying those for whom family intervention will have strong benefits. Parental high EE may be an indication that for some young people family factors are particularly influential in the maintenance of depression; alternatively, childhood depression in the presence of parental low EE may signal different maintaining factors. Additionally, our family-based treatment, with its specific focus on reducing stress and increasing family support/coping, was associated with change in parental EE and children’s ratings of family cohesion, suggesting that the intervention was successful in promoting a less critical and more supportive family environment from the child’s viewpoint.

Whereas family factors changed, measures of children’s cognitive biases suggested little change across treatment. Cognitive biases were not targeted during this treatment and therefore would not be expected to change unless they were mediated by the anti-depressant effect of the intervention. Negative cognitions may not change without specific, focused intervention.

In conclusion, the present results support the efficacy of FFI for school-aged children with depressive disorders. A randomized controlled trial is needed to further clarify the promise of our findings and determine the degree to which FFI can prevent the frequent morbidity, chronicity, and functional impairment associated with depression in children.

References


TOMPSON ET AL.: FAMILY TREATMENT OF CHILDHOOD DEPRESSION


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