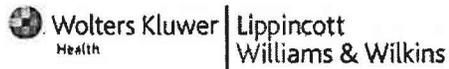


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Journal of the American Academy of CHILD & ADOLESCENT PSYCHIATRY

◆ Preceded by: Journal of the American Academy of Child Psychiatry (ISSN: 0002-7138)

Family-Based Treatment Research: A 10-Year Update

Author(s): Diamond, Guy Ph.D.; Josephson, Allan M.D.	ISSN: 0890-8567
Issue: Volume 44(9), September 2005, pp 872-887	Accession: 00004583-200509000-00009
Publication Type: [RESEARCH UPDATE REVIEW]	Full Text (PDF) 143 K
Publisher: Copyright 2005 © American Academy of Child and Adolescent Psychiatry	
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Institution(s): Accepted March 22, 2005.	
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Disclosure: The authors have no financial relationships to disclose.	

Keywords: family treatment, randomized clinical trials, review

ABSTRACT

Objective: To provide an update on the state of the art of family-based treatment research.

Method: Randomized clinical trials conducted in the past 10 years that included parents as a primary participant in treatment of child and adolescent psychiatric problems were reviewed. Studies were identified from major literature search engines (e.g., *PsycINFO*, *Medline*). Current significant pilot work was identified in the National Institute of Mental Health Computer Retrieval of Information on Scientific Projects (CRISP) Web page or from the authors themselves.

Results: Family treatments have proven effective with externalizing disorders, particularly conduct and substance abuse disorders, and in reducing the comorbid family and school behavior problems associated with attention-deficit/hyperactivity disorder. Several new studies suggest that family treatments or treatment augmented by family treatments are effective for depression and anxiety.

Conclusions: For many disorders, family treatments can be an effective stand-alone intervention or an augmentation to other treatments. Engaging parents in the treatment process and reducing the toxicity of a negative family environment can contribute to better treatment engagement, retention, compliance, effectiveness, and maintenance of gains. Recommendations for the next decade of research and some implications of family-based treatment for child and adolescent psychiatry are explored.

Family-based treatments attempt to decrease interactions between family members that contribute to psychiatric disorders in children and adolescents and to increase interactions that protect them from these problems. This approach to treating patients is supported by the well-established understanding that family relationships can have a positive or negative impact on child development (Rutter, 2002). Secure attachment relationships, effective parenting practices, and emotionally nurturing environments are a few of the family processes associated with healthy, normative child development (Cicchetti et al., 1995; Cowan and Cowan, 2002; Gottman et al., 1996). Alternatively, parental psychopathology, family and marital conflict, coercive parenting practices, and persistent negative affect are risk factors associated with numerous childhood psychiatric disorders (Cummings et al., 2000).

Given the profound effect that family life has on child development and psychopathology, interventions to target family processes have become increasingly popular. For example, in the past decade, 46 states have granted a master's degree-level family therapy license recognized by most third-party payers. Home-based, family-centered treatment programs increasingly characterize the delivery of community-based services for public mental health and substance abuse programs (Chavez and Kumpfer, 1998; Nelson, 1997). In fact, several family treatments have been identified as best practice models in reports by the National Institutes of Drug Abuse and Mental Health, the Office of Juvenile Justice, the Center for Substance Abuse Treatment, the U.S. Surgeon General, and several private and consumer-based organizations (Child Trends, 2002; Mihalic et al., 2001; National Advisory Mental Health Workgroup on Child and Adolescent Mental Health Intervention Development and Deployment, 2001; U.S. Department of Health and Human Services, 1999). Consequently, the Accreditation Council for Graduate Medical Education requires programs in psychiatry to provide supervised clinical experience in the assessment and treatment of families.

Even when treatment is not identified as family based, children and adolescents typically cannot participate without parental support, consent, reimbursement, and transportation (Weisz et al., 1995). Furthermore, psychoeducational or cognitive-behavioral treatments may have limited applicability with young children, who often lack the cognitive capacity to engage in these treatments without parental help (Freeman et al., 2003). Although adolescents can engage in these treatments, parents can play a crucial role in overcoming treatment resistance and reinforcing treatment gains (Liddle, 2004). Therefore, child treatment is often pragmatically

"de facto family context therapy" (Kazdin and Weisz, 1998). Given the growing interest in family work, its potential value, and the necessity of parental involvement, treatment research is essential to demonstrate the effectiveness of this modality.

Fortunately, empirical support for family-based treatments has developed during the past decade (Liddle et al., 2001; Sprenkle, 2002). In a review of child-focused, National Institute of Mental Health (NIMH)-funded intervention models, more than half of the treatments included a family component (Hibbs and Jensen, 1996). Family risk factors and treatments now play an important role in many Practice Parameters set forth by the American Academy of Child and Adolescent Psychiatry (e.g., substance abuse, schizophrenia, conduct disorder). Development of a relational diagnostic system (e.g., marital conflict) for *DSM-IV* has progressed (Kaslow, 1996), and a 100-point single-item scale to measure family functioning (The Global Appraisal of Relational Functioning) has been included in the *DSM-IV* as a provisional tool (Dausch et al., 1996). More important, family-based treatments have been tested for nearly every major child and adolescent disorder (Pinsof and Wynne, 1995). The effectiveness of these treatments is detailed in several descriptive reviews (Alexander et al., 1994; Dadds, 1995; Diamond and Siqueland, 2001; Liddle and Rowe, 2004; Pinsof and Wynne, 1995; Sprenkle, 2002). Several meta-analytic studies have concluded that marital and family therapies were significantly more effective than no treatment and at least as effective as other forms of psychotherapy, with an overall effect size of 0.53 (Shadish and Baldwin, 2002; Stanton and Shadish, 1997). In general, the past decade of research has clearly established family intervention as an effective approach to treating child and adolescent psychiatric disorders.

This review represents a 10-year update of a previous review in this journal (Diamond et al., 1996). It focuses on common disorders that have received the most research: mood disorders (depression and bipolar disorder), anxiety disorders (generalized anxiety disorder and obsessive-compulsive disorder [OCD]), anorexia nervosa, conduct disorder, attention-deficit/hyperactivity disorder (ADHD), and substance abuse disorder. For each disorder, several new studies are reviewed, and, when possible, recent review papers are cited. We focus on the most rigorous, well-designed, randomized clinical trials, although some promising preliminary work is also reviewed. Most of the studies used manual-based treatments, standardized assessments tools, and longitudinal follow-up. Manuals, when available, are cited or can be obtained by contacting the primary author of each study. Recommendations for future research on specific disorders are detailed in the cited review papers. The recommendations in this review apply to the general field of family intervention science rather than to specific disorders.

A number of areas worthy of review but not included (e.g., chronic illness, obesity, marital therapy) are covered in the above-cited reviews. In particular, the literature on schizophrenia is not covered because it pertains primarily to young adults; however, family-based treatments for this disorder are well developed, successful, and worthy of examination (see Goldstein and Miklowitz, 1995; McFarlane et al., 2002). A review of family prevention research is also not included but can be found elsewhere (e.g., Bry et al., 1998; Spoth et al., 2002).

Each section begins with a brief review of family risk factors associated with each disorder. Empirically based treatments rely on research in child and adolescent development and developmental psychopathology to identify pathogenic and protective processes as potential treatment targets (Boyce et al., 1998; Demo and Cox, 2000; Liddle et al., 1998). Treatment conceptualization, design, and implementation are informed by this knowledge base (Kazdin, 1999; Wamboldt and Wamboldt, 2000). This is a common medical strategy in which disorders of multifactorial causes (e.g., atherosclerotic heart disease or diabetes) are managed by minimizing risk factors (e.g., lowering cholesterol in atherosclerotic disease, weight loss in diabetes) or promoting prevention (e.g., exercise, dietary change). Identifying risk factors does not imply causality. Problems in parenting may contribute to child and adolescent psychopathology and/or be a response to it. Instead, the family risk research guides the development of contemporary empirically supported intervention models by identifying domains of family life associated with given disorders.

Three themes provide a framework for this review. First, most family researchers no longer adhere to a strict interpretation of "family systems theory." Systemic theories often discouraged consideration of an individual's psychological or biological contribution to psychopathology. In contrast, most contemporary investigators use a more transactional, multidimensional, or ecological approach (Cicchetti and Toth, 1998; Liddle, 1999). Biological (e.g., genetic/temperamental) factors and family/social/ecological factors are viewed as interactive (Rutter, 2002). Family dysfunction (e.g., authoritarian parenting) may be a response to a child's biological vulnerabilities (e.g., attention deficits), and family stress (e.g., marital conflict, sexual abuse) may precipitate childhood problems (Cummings et al., 2000). These complex family interactions occur within a social ecology (e.g., community violence and poverty) that may heighten intra- and interpersonal conflict. Therefore, family-based therapies increasingly assess the contributions of the child, family, and community to the onset and maintenance of a particular disorder and how family strengths and resources can help remedy these problems (Liddle, 1999).

Second, the delivery of family-based interventions has become more flexible and integrative (Lebow, 2002). Clinicians no longer require all family members to be present. Group or individual sessions with parents or children alone are common strategies for building alliances, teaching skills, or preparing for future sessions (Diamond et al., 2003; Liddle, 1999; Silverman et al., 1999). The parent's role in family treatment has also evolved. Parents may be involved as providers of support, teachers of new skills, cotherapists, and, at times, as patients themselves. In general, theoretical and technical eclecticism now dominates the field (Lebow, 2002; Josephson and Serrano, 2001). For example, interventions that combine family treatment, cognitive therapy, and/or medication are increasingly common (e.g., Barrett et al., 2004; Miklowitz et al., 2004; Siqueland et al., 2005). Consequently, we use the terms *family-based treatment* and *family intervention science* to characterize this broader focus of treatment and research. Family-based treatment is defined as any modality involving parents as essential participants in treatment. This includes formal family therapy, parent management training, and psychoeducational models as well as community-based approaches.

Finally, and paradoxically, the growing evidence of the efficacy of family interventions occurs as psychotherapy becomes more marginalized from psychiatry (Gabbard and Kay, 2001). Neurosciences, psychopharmacology, and managed care increasingly define the scope of psychiatric practice. These forces deter child and adolescent psychiatrists from learning and delivering psychotherapy in general and family therapy in particular (Malone, 2001). It is hoped that this review empirically demonstrates what most child psychiatrists know: Treatment of children and adolescents is enhanced by attention to the family context of a child's problems.

DEPRESSION

Many interpersonal theories of depression have emerged in recent years that focus on psychophysiology, feminist theory, family interaction, and transactional models, to name a few (see Joiner and Coyne, 1999). These theories are supported by a growing body of empirical research suggesting that depression can be precipitated, maintained, or exacerbated by interpersonal relationships (Diamond et al., 2003; Sheeber et al., 2001). Parental depression, marital conflict, ineffective parenting practices, loss, negative parent-child interaction, and insecure attachment have been associated repeatedly with the causes and maintenance of depression (Beach, 2001; Cummings et al., 2000). It has been proposed that families with these characteristics have low tolerance for conflict, which compromises the child's and adolescent's expression of autonomy (Allen and Land, 1999; Powers and Welsh, 1999). Expressions of negative feelings are unwelcome and threatening to parents, which reinforces a negative schema of self and others (Cicchetti et al., 1995). Yet, even with this theoretical and empirical support, surprisingly few family-based treatments have been tested with this population (Kaslow and Thompson, 1998).

Lewinsohn et al. (1990) and Clarke et al. (1999) conducted two treatment trials with depressed adolescents using parent groups to augment the cognitive-behavioral elements of the Coping with Depression Course (CDC). In these trials, parents were oriented to the content of the CDC. In both studies, the CDC alone and the CDC combined with family intervention reduced symptomatology more than the waitlist condition. However, there was a strong trend favoring the combined treatment on reducing scores on the internalizing and externalizing scales of the Child Behavior Checklist and the Beck Depression Inventory (Clarke et al., 1992), providing preliminary evidence of the importance of augmenting cognitive-behavioral therapy (CBT) training with parent psychoeducation.

Two family therapy studies have been conducted with depressed adolescents. Brent et al. (1997) compared individual CBT, supportive therapy, and a structural-behavioral family treatment to treat adolescents with major depression. After treatment, CBT produced a more rapid improvement than both supportive therapy and structural-behavioral family treatment, and it also had a significantly higher percentage of patients who achieved remission at the end of treatment (CBT = 60%; structural-behavioral family treatment = 38%; supportive therapy = 39%). However, there were no significant differences between CBT and structural-behavioral family treatment on functional impairment and suicidal ideation. At 2-year follow-up, there were no long-term differences between any of the treatments (Birmaher et al., 2000). Interestingly, parent-child conflict and low affective involvement at baseline or follow-up (by either adolescent or parent report) predicted lack of recovery, chronicity of depression, and recurrence of depression.

Diamond et al. (2002b) developed and tested attachment-based family therapy (ABFT) for depressed adolescents. This treatment focuses on helping families identify and resolve core family conflicts that have inhibited adolescents from trusting their parents and using them as a source of emotional support. In their 2002 study, a 12-week treatment was compared with a 6-week waitlist. Remission occurred in 84% of the adolescents treated with ABFT and in 36% of the patients in the control group. ABFT also produced more significant reductions in anxiety, hopelessness, and family conflict and improved adolescent attachment to parents. Data from several process research studies have been used to refine the manual (Diamond et al., 2003), but a larger, randomized trial is still needed to confirm the efficacy of ABFT. A study on adolescents with depression and suicidal ideation in primary care is under way (Diamond, 2004).

Thompson et al. (2003) are developing a behavioral family therapy model for depressed children that focuses on communication and problem solving. In an initial open trial of this model ($N = 9$), 66% of cases no longer met criteria for depression after treatment, and two thirds of high expressed emotion parents became low expressed emotion parents. An NIMH-funded pilot study is nearly complete. It seems that family treatments are promising for child and adolescent depression, but more studies are needed before firm conclusions can be made.

Finally, three preliminary studies have been conducted to treat adolescents with bipolar disorders. Fristad et al. (1996) are testing a multifamily, psychoeducational group therapy approach for children with mood disorders (bipolar and depression) as an adjunct to treatment as usual. In their first pilot study ($N = 35$), preliminary data suggest that the experimental treatment produced greater knowledge of mood symptoms, increased positive family interaction (parent report), increased perceived support from parents (child report), and increased appropriate service use. A larger NIMH-funded study is under way.

Pavuluri et al. (2004) have developed a family-focused CBT program to be used in conjunction with medication. The model uses family psychoeducation to help families cope with the medical aspects of the disorder, CBT to improve adolescents' affect regulation, and psychoeducation in schools to help build social supports. Psychotherapeutic aspects of the treatment attempt to reduce environmental stress and negative responses of the family to the patient's symptoms (e.g., expressed emotion). In a well-designed preliminary open trial, 34 children (ranging in age from 5 to 17 years) were treated for 12 sessions. Therapist adherence, family participation, and patient satisfaction were high. Compared with baseline, after treatment, patients showed significant reductions in symptoms of inattention, aggression, mania, psychosis, depression, and sleep disturbance.

Finally, Miklowitz et al. (2004) have modified an empirically supported family treatment for adults with bipolar disorder to be used with adolescents. In addition to pharmacotherapy, treatment involved psychoeducation, communication enhancement, and problem-solving skills training. In an initial open trial with 20 bipolar adolescents, findings have been promising.

ANXIETY

Only recently have researchers begun to look at family factors associated with anxiety (e.g., Siqueland et al., 1996; Stark et al., 1990, 1993; Whaley et al., 1999). In a recent review of self-report and observational studies, Ginsburg and Schlossberg (2002) identified several family risk factors associated with childhood anxiety disorders. Overly controlling and overprotective parenting has been linked consistently to increased anxiety, whereas two studies have shown that authoritative/democratic parenting is associated with less anxiety. Interestingly, studies of negative family factors (e.g., minimal positive affect, rejection, criticism) have yielded mixed results. The most unique family risk factor for anxiety disorders is parental modeling, or reinforcing, of anxious or avoidant behaviors. For example, Barrett et al. (1996b) found that, compared with families of nonanxious children, children diagnosed with anxiety disorders and their parents perceived more threats and generated more avoidant responses in ambiguous situations. Moreover, anxious interpretations increased after family discussions about these situations, a process labeled as the FEAR effect (family enhancement of avoidant responses) effect (Barrett et al., 1996a). Although this body of research is small and has methodological limitations (Ginsburg et al., 2004), these observations are based on the investigation of several family-based interventions.

Building on their family research, Barrett et al. (1996b) compared an individual CBT treatment (Kendall et al., 1989) with CBT + a behavioral family intervention (BFI) developed by Kendall et al. (1989). The family intervention taught parents to reward coping behavior, to extinguish excessive anxious behavior, to manage their own anxiety with similar CBT techniques, and to develop new family communication and problem-solving skills. At the end of treatment, 84% of children in combined treatment no longer met a *DSM-III-R* diagnosis as compared with 57% of children treated with CBT alone. The combined treatment continued to show superior outcome at 6-month (84% versus 71%) and 12-month (96% versus 70%) follow-up and was especially effective for girls and younger children.

In a second study, Barrett (1998) tested a group format for both the individual CBT and BFI and found similar results. The two treatments (group CBT and group CBT + BFI) did not differ from each other in the percentage of children who no longer met diagnostic criteria after treatment and at follow-up; however, clinical ratings revealed superiority of CBT + BFI at follow-up for family-related measures (e.g., parenting competence and family disruption) and ratings of overall anxiety, general functioning, and avoidant behavior. In addition, the CBT + BFI condition produced consistently lower internalizing and externalizing scores on the Child Behavior Checklist, suggesting generalization of improvement to problems other than anxiety.

Cobham et al. (1998) replicated the studies of Barrett et al. (1996a,b) using only one component of the family treatment package, a four-session parent anxiety-management program. This study also addressed the question of whether the family treatment benefited all families. They found that children whose parents did not have anxiety did as well in the CBT treatment alone as in the combined CBT + parental anxiety management treatment (82% versus 80%), whereas children whose parents had anxiety did poorly in the CBT-alone treatment and did well in the combined treatment (39% versus 77%). These differences remained at 6- and 12-month follow-up. This study suggests that family interventions for anxiety may be most effective when parents are anxious.

A number of other studies have tested different models of family involvement. Mendlowitz et al. (1999) compared child only, parent only, and combined child-parent groups for children (ages 7-12) with anxiety disorders. All three groups showed equal reductions in anxiety and depressive symptoms, but patients in the child-parent groups used more active coping strategies after treatment. Spence et al. (2000) treated youths (ages 7-14) diagnosed with social phobia. Fifty patients were randomized to a child group, a combined parent-child group, or a waitlist control group. Both active treatments did better than the waitlist, with a trend for more children in the parent-child group toward no longer meeting criteria for the disorder after treatment and at 1-year follow-up. Finally, Silverman et al. (1999) compared parent and child concurrent CBT groups with the waitlist control group in treating child and adolescent anxiety. Parallel content was taught in both conditions. After treatment, 64% of treated patients were in recovery, whereas only 12.5% of patients in the waitlist control group no longer met criteria for diagnosis. Benefits were maintained for as long as 12 months.

Three works in progress combine family therapy treatments with CBT sessions. Siqueland et al. (2005) modified the individual CBT of Kendall et al. to work with adolescents and compared it with a combination of CBT and ABFT (Diamond et al., 2002b). The family treatment focuses on promoting adolescent independence, increasing parents' tolerance of the adolescent's autonomy, challenging parental beliefs about safety and competence, improving communication and problem-solving skills, and reducing marital conflict related to parenting. Eleven adolescents were randomly assigned and evaluated before and after treatment and at 6- and 9-month follow-up. Adolescents in both treatments showed a significant decrease in anxiety and depressive symptoms at all time points. This research is promising, but studies with larger samples are needed.

Two studies have examined the efficacy of CBT with parent involvement for anxiety-based school refusal. King et al. (1998) provided a 12-session treatment (six sessions with the child, five with a parent, and one with the teacher) focused on coping skills, training, and exposure to anxiety-provoking situations. Parents and teachers were given advice on how to encourage school attendance. Patients in the active treatment showed improved school attendance (88%), compared with only 29% of patients in the waitlist group. In a study by Last et al. (1998), parents attended an unspecified number of sessions of a traditional CBT treatment course. No significant differences were found between the CBT treatment and the educational support condition.

Finally, several researchers have begun to examine the role of parents in the treatment of childhood OCD (Knox et al., 1996; Piacentini et al., 2002). Ten open trials have been conducted that used a CBT manual and included a parent component (see reviews by Barrett et al. [2004] and Freeman et al. [2003]). In the first randomized trial with 77 children with OCD, investigators compared 14 weeks of individual cognitive-behavioral family therapy (CBFT), group CBFT, and 4 to 6 weeks of a waitlist control condition (Barrett et al., 2004). Each treatment session consisted of individual or group CBT with the child, parent skills training for 30 minutes, and family review of progress for 10 minutes. Treatment included multiple components including anxiety management, exposure/response prevention, and maintenance of gains. The individual and group CBFT had nearly equal response rates (88% and 76%, respectively), and both were significantly better than control after treatment and at 6-month follow-up. This study not only supports the value of family involvement but also suggests that family group treatment modalities may warrant further investigation. Freeman et al. (2003) are also developing and testing a CBFT treatment for early-onset OCD.

ANOREXIA AND BULIMIA NERVOSA

The family risk factor research on eating disorders can be organized around three themes: parental modeling, parental reinforcement, and general family discord (Littleton and Ollendick, 2003). Several studies suggest that compared with nonclinical families, parents of a youth with an eating disorder have more eating problems and are more preoccupied with their child's weight and appearance, whereas several other studies have not supported these findings. Dysfunction in family interaction has consistently been associated with eating-disordered behavior, however. Specific family risk factors have included insecure child attachment, parental criticism, parental intrusiveness and overcontrol, low family cohesion, and physical or sexual abuse (Polivy and Herman, 2002). Ward et al. (2000) proposed that these general family factors may not be causal but actually a result of negative eating behaviors. Even though the interpretation of data on family factors and eating disorders remains in dispute, there has been extensive family-based intervention research for weight management (see reviews by Berkowitz et al. [2001] and McLean et al. [2003]).

There have been four well-designed family-based studies on eating disorders in the past decade. Robin et al. (1994, 1999) completed two studies comparing 4 months of behavioral family systems therapy (BFST) to an ego-oriented individual therapy (EOIT) for treating adolescents with anorexia. BFST aims to change family interactions and distorted beliefs, whereas EOIT focuses on building ego strength and uncovering conflicts about food. In the first study, patients in BFST at month 4 gained significantly more weight than did patients in EOIT. In the second study, at 1-year follow-up, BFST produced greater weight gain and higher rates of resumption of menstruation than EOIT. Both treatments produced comparably large improvements in eating attitudes, depression, and eating-related family conflict; however, few changes occurred in measured ego functioning.

Eister et al. (2000) compared two different forms of family treatments for adolescent girls with anorexia nervosa. Having similar treatment targets and goals, "conjoint family therapy" treated the family as one group together, whereas in "separated family therapy" the parents and the adolescent were seen individually. At 3-, 6-, and 12-month assessments, both treatments did nearly equally well. In families with high maternal criticism, separated family therapy was more effective, whereas patients in the conjoint family therapy showed more improvement in psychological functioning (e.g., mood, obsessiveness, psychosexual adjustment).

Geist et al. (2000) randomized 25 adolescent girls (ages 12-17) hospitalized with restrictive eating disorders to 4 months of either family therapy or family psychoeducation. Both treatments significantly restored body weight but increased family conflict. This may indicate that conflict avoidance and denial are often prominent features associated with a lack of therapeutic progress in these families.

In an open trial with 45 adolescents, ranging in age between 9 and 18, Le Grange et al. (2005) applied the Maudsley family therapy model to treat anorexia nervosa. Treatment initially focuses on parents' more effectively and jointly taking charge of the patient's eating behavior to stabilize health and weight. Treatment then shifts toward returning more self-authority and autonomy to the adolescent over most aspects of eating and eventually other areas of his or her life. After an average of 17 sessions, patients showed a significant improvement in body mass index and percentage of ideal body weight. A larger NIMH-funded study is under way to further evaluate this intervention.

CONDUCT DISORDER AND OCD

Clearly, disruptive behaviors are multidetermined, with risk factors in the areas of peer relationships, school experience, and community setting. In addition, extensive research suggests that family factors significantly contribute to the development and maintenance of these problems. For example, parental problems (e.g., depression, antisocial behavior, substance use), marital conflict, negative parenting practices, and insecure or disorganized attachment relationships all have been associated with disruptive disorders (Hann and Borek, 2001; McMahon and Wells, 1998). The model of coercive parenting continues to guide the direction of parent intervention in this area (Reid et al., 1997). In brief, this model demonstrates that parents of disruptive children typically ignore low levels of aversive or demanding child behavior. As a child's noncompliance increases (i.e., temper tantrums), parents either withdraw or punish the child harshly. Thus, the child learns

that increasing demanding behavior will produce attention (although negative) from a previously withdrawn parent. Parents learn that harsh punishment provides temporary relief. This interaction reinforces a cycle of reciprocal coercion, characterized by aggressive and negative child behavior and harsh and inconsistent discipline by the parent. Several cross-sectional and longitudinal studies have supported this theory (see review by Campbell and Patterson [1995]).

Based on the coercive model, two treatment modalities have emerged: parent management training (PMT) and behavioral family therapy (BFT). PMT is a parent-focused psychoeducational approach that teaches parents to promote prosocial child behaviors through the use of monitoring, positive reinforcement, point systems, and problem-solving skills (see Brestan and Eyberg [1998] for a review). Several studies have validated the short- and long-term (e.g., 14 years) benefits of this approach (see McMahon [1994] for a review). BFT broadens PMT by incorporating into treatment a variety of family, parent, and child factors that have been implicated as leading to disruptive disorders (e.g., parental stress, cognitions about the child, child temperament [Reid et al., 1997]).

Two BFT/PMT programs have received the most attention in the past decade. The "Helping the Noncompliant Child" program (McMahon and Forehand, 2003) works with the entire family, directing the parent to practice skills with the child. Treatment initially focuses on enhancing positive parent-child interactions and then focuses on compliance training. For childhood oppositional disorder, Eyberg and Boggs (1998) developed parent-child interaction therapy. This model focuses on promoting parents' nurturing skills and then turns to improving parents' discipline practices. The program (Webster-Stratton, 1998) uses 100 2-minute video vignettes that demonstrate positive parenting skills. Both programs focus on behavioral management as well as creating a positive, emotionally secure relationship. In addition, both programs have received extensive empirical support for short- and long-term effects. Several component analysis studies have helped to identify the essential patient processes and therapist interventions for producing change (McMahon and Wells, 1998).

Three family systems models have been developed to treat children and adolescents with behavioral problems. Henggeler and Sheidow (2003) have developed multisystemic family therapy (MST), an intensive home- and community-based approach (see Henggeler et al. [1998] for the most recent version of the manual). Since 1986, 10 randomized clinical trials have been completed, primarily targeting delinquent youths, as well as one study on adolescent sex offenders (Henggeler et al., 2002). MST has been successful consistently in reducing delinquent behavior, drug use, incarceration, and hospitalization. Studies have demonstrated that MST is cost-effective, produces high treatment retention, and can be disseminated to community settings (Henggeler et al., 1999).

Alexander and Parsons (1982) developed functional family therapy (FFT). FFT concentrates on reducing adolescent defensiveness, promoting positive behaviors, and developing interpersonal skills. FFT emphasizes the teaching of parenting skills, including minimizing blaming and scapegoating (Alexander et al., 1998). In the most recent study, FFT reduced recidivism, general crime rate, and severity of crime (Sexton and Alexander, 2002). Chamberlain and Mihalic (1998) developed a multidimensional family-based model for treating delinquent teens in foster care called Oregon Treatment Foster Care (OTFC). Like MST and FFT, OTFC teaches parenting behaviors that promote close supervision, limit setting, structure, reduced deviant peer contact, and prosocial activities. A recent study with 79 adolescents showed that compared with standard foster care, OTFC reduced the number of runaways and time in detention and increased time with biological parents (Chamberlain and Reid, 1998).

All three family systems models (MST, FFT, and OTFC) are "blueprint" treatments supported and promoted by the Office of Juvenile Justice (Mihalic et al., 2001) and have been recognized as model approaches by the Surgeon General and the NIMH (National Advisory Mental Health Workgroup on Child and Adolescent Mental Health Intervention Development and Deployment, 2001). Each model has also demonstrated impressive cost savings as compared with typical treatments in the community (Aos et al., 2001).

ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

ADHD is influenced by biological and genetic factors, with family environment appearing to play a role in the management and outcome of this disorder (Barkley, 1998); however, the research on family factors is limited and inconsistent. Many studies suggest that families of these patients have more stress and conflict, poor parenting practice, more marital distress, and less authoritative parenting. These findings vary by assessment method (self-report versus observational measures), research design (cross-sectional versus longitudinal), and diagnostic status (attention-deficit disorder versus ADHD versus ADHD + disruptive behavior) (see Johnston and Mash [2001] for a review). Some investigations have suggested that family factors (e.g., parenting) may be most influential when the child has comorbid disruptive behaviors and other psychosocial problems (e.g., school failure). Even with these symptoms, more research is needed to clarify their association with family functioning. Still, behavioral parent training programs are the most studied adjunctive treatments for this population.

Most studies have focused on young children (5-12 years old) and have demonstrated success after treatment (see Estrada and Pinosof [1995] and Pelham et al. [1998] for complete reviews). These programs focus primarily on behavioral contingency management strategies that improve parents' use of reward, punishment, and conflict resolution. Most programs are brief and involve only the parents. Research has been conducted with families of diverse socioeconomic status and racial populations and different family structures, and it has often included children with comorbid conditions. Most studies have used manuals created by either Patterson (1982) or Barkley (1998). A number of research groups have documented improvement in both classroom behavior and parent-child conflict on rating scales and sometimes by behavioral observation (Anastopoulos et al., 1993; Pisterman et al., 1992). These programs often have less impact on the core ADHD symptoms but seem to be beneficial in reducing associated disruptive behavior problems.

As with oppositional defiant disorder, parent-training programs have expanded beyond mere behavioral management. Programs now target stress, anger management, communication, and school advocacy (Barkley, 1998). Other studies have combined parent training with additional modalities. For example, Hinshaw et al. (2000) and Pelham and Waschbusch (1999) have added teacher consultation modules to treatment, which helps generalize improvements in the home to the school environment. Although it was not specifically a family-focused study, the Multimodal Treatment Study of Children included a strong family/parent education component (MTA Cooperative Group, 1999a,b).

Only two studies have specifically used family therapy to target adolescents diagnosed with ADHD. Barkley et al. (1992) randomized 61 adolescents to three family-based treatments: behavior management training (BMT) with parents alone, problem solving and communication training with the entire family, and structural family therapy. BMT is a traditional contingency management-training program. Problem solving and communication training focuses on teaching a problem-solving approach and communication training. Structural family therapy focuses on modifying maladaptive interactional patterns. All treatments produced significant improvements in a number of domains, but only 20% of subjects showed reliable, clinically significant improvement. In the second study, Barkley et al. (2001) sought to improve these outcomes by doubling the number of sessions to 18, providing twice-weekly sessions, and combining BMT with problem solving and communication training in one treatment arm. The study focused only on the comorbid group. Again, all three treatments produced equally significant change, measured after treatment and at 2-month follow-up treatment. Although reliable change occurred in only 24% of all patients, 25% to 81% of patients (depending on reporter and measure) scored in the normal range after treatment. Families who received BMT first remained in treatment longer, suggesting that parents need tools for effectively managing personal and adolescent behaviors before directly addressing family conflict.

DRUG ABUSE

General family risk factors for adolescent substance abuse are similar to those of other behavioral disorders. Parental psychopathology (especially antisocial behavior and drug use), marital conflict, poor parental monitoring of child behavior, negative attachment relationship, and low family cohesion all have been associated with adolescent substance abuse (Rowe and Liddle, 2003). One unique protective family process is parental expression of disapproval of drug use (Substance Abuse and Mental Health Service Administration, 2001). The lack of basic family research on adolescent substance use is paralleled by the relatively few treatment studies for this population. In a recent comprehensive review of treatment research, Williams et al. (2000) identified 53 studies focused on adolescent substance abuse (of which only 15 were randomized clinical trials), compared with more than 1,000 studies that focused on adult substance use treatment. Still, adolescent substance abuse treatment may be the most active area of family-based intervention research in the past decade (Rowe and Liddle, 2003).

Since 1992, 12 randomized clinical trials have compared the efficacy of brief (10-16 sessions) family treatment with parent management, individual therapy, and group therapy. Reviews consistently demonstrate that family therapy is equal or superior to other modalities in retaining patients in treatment, reducing drug use behavior, and lessening other associated problems (e.g., truancy, psychiatric distress, delinquency, family functioning [Liddle, 2004; Stanton and Shaddish, 1997; Waldron, 1997]). In the past decade, four treatment models have received the most programmatic attention: FFT (Alexander and Parsons, 1982); multidimensional family therapy (MDFT) (Liddle, 1999), MST (Henggeler et al., 1998), and strategic family therapy (Szapocznik and Williams, 2000). All four approaches emerged from the structural and strategic tradition, yet each has developed distinct, manual-based approaches to treatment. All have been recognized by several federal organizations (National Institute on Drug Abuse, Center for Substance Abuse Treatment, Office of Juvenile Justice and Delinquency Prevention) as best practice models for treating substance abuse and related behavioral problems.

MDFT is the most systematically developed family treatment specifically for substance abuse (Liddle, 2002). Liddle et al. (2001) demonstrated that a 12-week version of MDFT was superior to multifamily group therapy, traditional group therapy, and CBT for reducing general substance abuse problems in outpatient services. Applied as an intensive 6-month program, MDFT was more effective than residential care (Rowe et al., 2002; see also Schoenwald et al. [1996] for a comparison of intensive outpatient treatment compared with hospitalization). Used as a home-based substance abuse prevention program, MDFT helped prevent the onset of adolescent drug use (Hogue et al., 2002). In a creative study of systems change, MDFT was successfully integrated into a day treatment and inpatient setting (Liddle et al., 2002). MDFT is the leading family treatment for substance-abusing adolescents.

Impressive studies have been conducted with other treatment models as well. Exploring the impact of combining treatment models, Waldron et al. (2001) found that youths receiving FFT combined with CBT or FFT alone had fewer days of drug use at 4- and 7- month follow-ups than did youths in CBT alone and group therapy. Henggeler et al. (1999) demonstrated that home-based MST was more effective than typical community services for adjudicated youths with co-occurring substance use disorders. In addition to greater reductions in drug use, MST produced a 50% reduction in the number of days in out-of-home placement. In a large ($N = 600$) multisite clinical trial targeting substance-abusing adolescents, MDFT and family support network, a multicomponent family-based treatment, were as clinically effective as group and individual therapy for reducing substance use and maintaining these gains for as long as 30 months (Dennis et al., 2004; Diamond et al., 2002a). Finally, the long-term effectiveness of family-based treatments has also gained empirical support (Henggeler et al., 2002; Stanton and Shadish, 1997).

In addition to symptom reduction, several other important outcomes and processes have been investigated. Szapocznik et al. (1988) and others (Coatsworth et al., 2001; Santisteban et al., 1996) have demonstrated that family engagement strategies can significantly increase patient engagement and retention in treatment. Similarly, Henggeler et al. (1996) demonstrated a 98% treatment completion rate for home-based MST. Henggeler et al. (1997) have also demonstrated that adherence to the MST manual predicts significantly better patient outcomes. Other studies, mostly focused on MDFT, have examined the actual proposed mechanisms of change. These process studies have examined the links between changes in parenting and reductions in adolescent drug and behavior problems, improving poor therapist-adolescent alliance, the impact of culturally syntonc themes to engage African-American males, and in-session patterns of change associated with the resolution of parent-adolescent conflict (see Liddle [2004] for a review).

CONCLUSION

During the past decade, empirical support for the effectiveness of family-based treatments has progressed. Family treatments have proved effective for externalizing disorders, particularly conduct and substance abuse disorders. Family interventions have been less effective in reducing core ADHD symptoms, yet they do contribute to reducing the comorbid family and school behavior problems associated with this disorder. Pharmacotherapy combined with psychosocial/family intervention appears to be the treatment of choice for children with ADHD and comorbid conditions. Internalizing disorders are the newest area of family-based treatment research. Several new treatments for depression and anxiety are emerging that focus on attachment, parenting practices, and general family functioning. Clearly, family-based treatments for internalizing disorders are promising, but more studies are needed to make stronger conclusions. Even with these advances, family intervention science has many new areas for exploration. The following recommendations address the challenges faced by the overall field of family treatment research, leaving disorder-specific recommendations to the reviews cited above.

First, with the exception of MST (Henggeler et al., 1998) and MDFT (Liddle, 1999), few family-based treatments qualify as empirically supported treatment (e.g., repeated studies comparing various control groups conducted by different investigators [Chambless and Hollon, 1998]). Unfortunately, few child-focused treatments for any modality meet these criteria (Lonigan et al., 1998). More randomized clinical trials are needed to create the necessary body of research to meet these standards. Creative collaboration among the National Institutes of Health (e.g., National Institute of Child and Human Development, National Institute on Drug Abuse, NIMH) could launch more postdoctoral training opportunities, more family-focused requests for proposals (RFP), and multiagency conferences that would stimulate cross-disciplinary investigations and promote a new generation of family treatment investigators. The Center on Research on Adolescent Drug Abuse and the Family Research Consortium exemplify the kinds of institutional structures needed to move the field forward.

Second, the field needs more investigations that match treatment approach to clinical condition. For a child with a given disorder, different types or durations of family interventions may be necessary. Studies need to investigate which treatment type (e.g., crisis intervention, family support, parent education, family therapy) is most effective at a given stage of a disorder (e.g., prevention, early intervention, acute care, aftercare) for a patient with given characteristics (e.g., age, gender, race). These studies must also address questions unique to family intervention: Which family members should be involved and in what sequence? How is parental psychopathology addressed? Where should treatment be delivered (e.g., office, home, school)? Although these challenges and questions complicate investigations, they reflect the contextual realities of children's lives. Clarification of these issues could improve treatment efficacy and effectiveness.

Third, children with psychiatric impairment often interact with multiple social systems and agencies (e.g., schools, juvenile justice, foster care). Given the underlying systemic perspective, family treatments lend themselves to multisystem-level interventions (Chamberlain and Reid, 1998; Henggeler et al., 1998; Liddle, 1999). Investigations that focus on family-social services interaction can make substantial contributions to the design of service delivery systems.

Fourth, single treatments are rarely offered to patients in the real world (Jensen, 1993; Josephson and Serrano, 2001). Instead, treatment "packages" (e.g., family treatment + CBT) reflect practice patterns in most clinical settings (Barrett et al., 2004; Siqueland et al., 2005). Using family treatments to target relational processes, CBT to target cognitive processes, and medication to target biological process exemplifies a true biopsychosocial approach to treatment. Studies on how to integrate these treatments (e.g., which should come first, who should be involved in each component, how the treatments overlap or interact) could have immediate relevance to the practice community.

Fifth, our brief review of family risk factors suggests that some negative family processes may be common across disorders (e.g., criticism, conflict, negative emotional climate, parental psychopathology). Therefore, from a theoretical standpoint, family functioning may serve as a general or secondary factor that augments or diminishes underlying genetic or biological vulnerabilities (Miklowitz, 1995). For intervention purposes, the relative value of targeting family context versus the symptoms themselves remains an unanswered empirical question. Another implication of this observation is that successful family treatments for one disorder (e.g., MDFT, BFT), if appropriately modified, may be effective with other disorders. Still, future research with more sensitive assessment methods (e.g., family interaction data [Dadds, 1995; Snyder et al., 2002]) may help identify more disorder-specific interpersonal processes.

Sixth, research on the core tenets of family-based treatments is surprisingly lacking. For example, does targeting family factors (e.g., parenting, communication, problem solving) mediate treatment outcome and prevent relapse? Two studies have shown that improvement in family functioning decreases negative peer associations, which in turn decreases criminal behavior (Eddy and Chamberlain, 2000; Huey et al., 2000). Alternatively, Kolko et al. (2000) demonstrated that both family therapy and CBT produced reductions in negative cognitions and in family conflict. More exploration of the proposed mechanisms of family treatment would provide a stronger empirical understanding of which treatment processes are actually contributing to change (Pinsof and Wynne, 2000).

Seventh, dissemination of empirically supported treatments is one of the greatest challenges facing family, if not all, treatment researchers. The process of exporting empirically validated treatments to real-world clinical settings has proven far more complicated than anticipated (Hohmann and Shear, 2002). Family treatments for externalizing disorders (MST, FFT, MDFT) have had the greatest success in this area, but even treatments as successful as family psychoeducation for adult patients with schizophrenia have met barriers at the patient, agency, and system levels (McFarlane et al., 2002). Although complicated, research on dissemination of treatment models holds promise for improving the systems of care that treat the majority of our nation's psychiatrically ill children and adolescents.

What are the implications of family-based treatment research for child and adolescent psychiatry? First, the past conflicts between a contextual approach to diagnosis and treatment and an individually focused medical model should no longer exist (Malone, 2001). Family interventions reviewed here target psychiatric symptoms of distinct diagnostic populations. Even the study of the causes and course of a disorder has been greatly enhanced by exploring how family processes contribute to the onset and/or maintenance of psychiatric problems (Cummings et al., 2000; Joiner and Coyne, 1999). In fact, a family systems approach broadens the clinician's focus on biological process or behavioral symptoms to include consideration of how the interpersonal context contributes to these problems (e.g., abuse, neglect, parental psychopathology, poverty). In this regard, family treatment can be diagnostically focused while offering a framework for a more comprehensive and multidimensional system of assessment and intervention.

Second, in contrast to the reliance on individual artistry of early family therapists, many of today's family treatments are manual-based, focused, short-term interventions that can be taught and evaluated. These manuals rapidly focus providers on the most essential family risk factors that contribute to child and adolescent psychopathology. Some of these manuals are highly structured (e.g., psychoeducation models), whereas others are more principle driven (e.g., MDFT, ABFT), requiring clinicians to tailor a set of interventions and goals to the individual needs of each family (Godley et al., 2002). Furthermore, these manuals offer detailed descriptions of intervention strategies and adherence tools to monitor skill acquisition and fidelity of treatment (Henggeler et al., 1999; Hogue et al., 1998). Models for supervision of manual-based treatments are also provided and understood as an essential component of successful dissemination (Dennis et al., 2002; Najavits et al., 2004).

Third, a family-based psychiatric practice may help address some of the current concerns about the side effects of pharmacotherapy (e.g., suicidal ideation). When physicians and parents are partners in monitoring patient safety, the family serves as a safety net that can facilitate several treatment goals. These goals can include fostering parental competency, improving communication, and negotiating dependency and autonomy. More research on combining family psychotherapy and medication could prove fruitful.

Finally, explanatory models of child and adolescent psychopathology are increasingly complex and multifaceted (Rutter, 2002). Child and adolescent psychiatry must resist forces of biological and economic reductionism and promote a view of psychopathology and treatment that embraces a broad developmental and biobehavioral framework (Sprengr and Josephson, 1998; Wood, 2001). In this regard, the studies reviewed here present an implicit challenge to child and adolescent psychiatry. Given their importance, how do family processes fit into a gene-environment interaction model of psychopathology (McDermott, 2004)? Reevaluating the biopsychosocial model of psychiatry seems a worthwhile theoretical debate that could be investigated within empirical studies of family treatment and basic processes (Cowan and Cowan, 2002; Gabbard and Kay, 2001). Families are the biological and social context for a child's beginning and subsequent development. Incorporating findings from family developmental psychopathology and family intervention research can only improve the theory, research, and treatment of mental disorders in children and adolescents.

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Key Words: family treatment; randomized clinical trials; review

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