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Parent–Child Interaction Therapy and Chronic Illness: A Case Study

Daniel M. Bagner,[1,2] Melanie A. Fernandez,[1] and Sheila M. Eyberg[1]

We examined the outcome of parent–child interaction therapy (PCIT) for a child diagnosed with Oppositional Defiant Disorder (ODD) and cancer. "Robert," a 4-year-old Caucasian male, showed significant and meaningful changes in his behavior over the course of 13 weeks of PCIT, and Robert no longer met diagnostic criteria for ODD following treatment. His scores on the Eyberg Child Behavior Inventory and the Achenbach Child Behavior Checklist were in the clinical range before treatment and in the normal range at the conclusion of treatment. His mother also reported dramatic improvements in Robert's behavior during medical visits. Physician and social worker reports were consistent with her report. Such anecdotal data may have implications for the generalization of compliance to the medical setting for children with chronic illnesses. The results of this case study should prompt further investigation of parent-training interventions for children with chronic illnesses and disruptive behavior.

KEY WORDS: chronic illness; disruptive behavior; parent–child interaction therapy; preschool; behavior problems; child psychosocial treatment; parent training; cancer; adherence.

Disruptive behavior disorders are highly prevalent, affecting as many as 16% of children (American Psychiatric Association, 2000). These disorders are of great concern because of their high degree of impairment and poor prognosis for future behavior (Loeber, Burke, Lahey, Winters, & Zera, 2000). Early onset of disruptive-behavior disorders have been shown to predict later psychological problems, including violence and criminal behavior (Tremblay, 1992). The poor prognosis associated with disruptive behavior disorders typically refers to legal problems in a child's future (Johnson, McCaskill, & Werba, 2001) rather than to physical health concerns.

There is limited research investigating the effects of disruptive behavior in children with chronic illness, although its prevalence is similar in chronically ill populations (Colvin, Eyberg, & Adams, 1997). Noncompliance in chronically ill children can create particular difficulty for medical providers and lead to detrimental effects in children's health care, as well as substantially increase the costs of health care (LaGreca & Schuman, 1995). Thus, the critical importance of psychosocial treatments to manage the behaviors of children dually diagnosed with a disruptive behavior disorder and a chronic illness is increasingly being recognized (Mullins & Chaney, 2001).

Parent–child interaction therapy (PCIT) is an empirically supported treatment for disruptive behavior in preschool-age children (Nixon, Sweeney, Erickson, & Touyz, 2003; Schuhmann, Foote, Eyberg, Boggs, Algina, 1998) and is designed to change parent–child interaction patterns and thereby change children's behavior. In PCIT, parents are taught specific skills to increase their child's prosocial behaviors and decrease negative behaviors. The effectiveness of PCIT in treating children with disruptive behavior has been shown in various mental health populations, such as children with abuse histories (Ware, Fortson, & McNeil, 2003) and with separation anxiety disorder (Pincus, Choate, Eyberg, & Barlow, in press). A case report describing the successful use of PCIT with a child with diabetes has been described in the literature (Miller & Eyberg, 1991), but the effectiveness

[1]Department of Clinical and Health Psychology, University of Florida, Gainesville, Florida.

[2]Correspondence should be addressed to Daniel M. Bagner, MS, Department of Clinical and Health Psychology, Box 100165, University of Florida, Gainesville, Florida; e-mail: dbagner@hp.ufl.edu.

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of this treatment has not been reported for other chronic illness conditions. This is surprising in light of the importance of compliance to medical regimens for children with chronic illness and the documented improvements in child compliance following PCIT (Schuhmann et al., 1998).

Improvement in children's compliance to adult requests during PCIT has been shown to generalize beyond the family to children's behavior at school (Funderburk et al., 1998; McNeil, Eyberg, Eisenstadt, Newcomb, & Funderburk, 1991). In addition to the importance of compliance to medically related behaviors that occur within the context of the parent–child interaction (such as pill-taking), generalized compliance to situations such as medical clinics and hospitals is particularly important for children with chronic illnesses and their parents. Children who are more compliant in the health care setting may be more likely to benefit from the services rendered to them (Mathews, Spieth, & Christophersen, 1995). For these reasons, PCIT would be expected to benefit children's health care behaviors in the multiple settings in which chronically ill children receive care.

CASE INTRODUCTION AND PRESENTING COMPLAINTS

"Robert Smith" was a 4-year-old Caucasian boy with a 1-year history of bladder cancer who was treated with both radiation and chemotherapy. His mother, Ms. Smith, was referred to the psychological service of a large health sciences center by Robert's pediatric oncologist because of Robert's history of temper tantrums that included yelling, screaming, and hitting during medical evaluations. Ms. Smith accompanied Robert for his psychological evaluation and was an active participant in therapy. Primary presenting problems at home included physical aggression (e.g., hitting his mother), noncompliance (e.g., refusing to get dressed), and difficulty in transitioning from one activity to another. Ms. Smith reported that these behavior problems worsened at the time that Robert's chemotherapy began. For example, she recounted an incident in which Robert swung his bag filled with "chemo" around his head, causing it to spill onto her and a nurse. Ms. Smith was unable to control behaviors such as these in the hospital room, which was impeding Robert's medical treatment.

ASSESSMENT AND CASE CONCEPTUALIZATION

Following the initial clinical interview with Ms. Smith, the therapists administered a semistructured diagnostic interview, the National Institute of Mental Health Diagnostic Interview Schedule for Children Version IV (NIMH DISC-IV; Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000), to Ms. Smith. She was also asked to complete several parent-rating scales describing Robert's behavior problems and her own stress in dealing with them, and the therapists conducted behavioral observations of parent–child interactions.

Ms. Smith's report on the Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999) indicated that Robert's disruptive behavior was in the clinically significant range ($T = 75$). Her report on the Child Behavior Checklist (CBCL; Achenbach, 1991) suggested aggressive behavior in the borderline clinical range ($T = 67$), and her responses on the NIMH DISC-IV suggested a diagnosis of Oppositional Defiant Disorder (ODD). Taken together, Robert met research diagnostic criteria for ODD recommended by Jensen et al. (1996). On the Parenting Stress Index-Short Form (PSI-SF; Abidin, 1995), Ms. Smith's total stress score was at the 99th percentile, documenting clinically significant stress resulting from her interactions with Robert. More specifically, Ms. Smith's responses on this instrument suggested that Robert did not meet her expectations, her interactions with him were not reinforcing for her (95th percentile), and that Robert's behavior made him difficult to manage (95th percentile).

Ms. Smith and Robert were observed during three 5-min standard situations (child-led play; parent-led play; and clean up) that required Ms. Smith to use increasing structure and control in interactions with Robert. Ms. Smith's verbalizations were coded according to the Dyadic Parent–Child Interaction Coding System-II (DPICS-II; Eyberg, Bessmer, Newcomb, Edwards, & Robinson, 1994). Across the three parent–child situations, Ms. Smith used nine unlabeled praises (nonspecific praises, such as "nice job") and only one labeled praise (praise specifying the positive behavior, such as "nice job putting the blocks away"). She also gave 15 criticisms and asked Robert 60 questions during this 15-min observation period, both of which contribute to negative parent–child interactions.

The assessment indicated that Robert's disruptive behaviors were outside normal limits, and that he met diagnostic criteria for ODD. On the basis of the observed parent–child interactions, it was determined that treatment would focus primarily on increasing the specificity of Ms. Smith's positive verbalizations to increase behaviors incompatible with Robert's problem behaviors and on helping her to stop her high rate of negative verbalizations

to extinguish attention-seeking behaviors. In addition, the treatment plan was tailored specifically to Robert's reported noncompliance in the medical setting. It was expected that this intervention in the parent–child interaction would also help Robert's mother cope more effectively in her interactions with him. Ms. Smith was amenable to the recommendation of PCIT, and she appeared very motivated to begin treatment.

COURSE OF TREATMENT AND ASSESSMENT OF PROGRESS

PCIT (Eyberg, 1988) involves two distinct phases. The first, Child-Directed Interaction (CDI), resembles traditional play therapy and focuses on strengthening the parent–child attachment, increasing positive parenting, and improving child social skills; the second phase, Parent-Directed Interaction (PDI), resembles clinical behavior therapy and focuses on improving parents' expectations, ability to set limits, and consistency and fairness in discipline as they learn specific techniques to reduce child noncompliance and other negative behaviors.

During the CDI phase, parents learn to follow the child's lead in play by using the nondirective PRIDE skills: Praising the child, Reflecting the child's statements, Imitating the child's play, Describing the child's behavior, and using Enthusiasm in the play. They learn to change child behavior by directing the PRIDE skills to the child's appropriate play and consistently ignoring undesirable behaviors. Parents also learn to avoid using criticisms (e.g., "Your tower is crooked."), questions (e.g., "What do you want to play with next?"), and commands (e.g., "Hand me that toy."), which all take the lead away from the child. During CDI coaching sessions, therapists coach parents in their use of the PRIDE skills as they play with their child, until parents meet criteria for skill mastery, as assessed during a 5-min observation at the start of each session.

During the PDI phase, parents learn to direct the child's behavior when necessary with effective commands and specific consequences for compliance and noncompliance. In PDI coaching sessions, parents work toward meeting the mastery criteria of PDI skills that serve as an indicator of their consistency. Throughout the PDI phase of treatment, the therapist guides the parents in applying the principles and procedures of CDI and PDI to the child's behavior at home and in other settings.

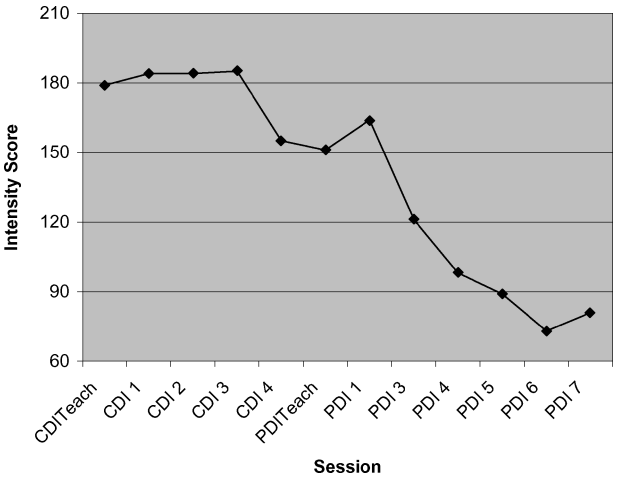

Fig. 1. ECBI intensity score change across treatment.

During treatment, Ms. Smith's ratings of Robert's behavior were tracked weekly using the ECBI Intensity Scale, a measure of the frequency of disruptive behaviors that is sensitive to weekly changes in child behavior during PCIT (Perez, Bell, Adams, Garzarella, & Eyberg, 2002). Figure 1 illustrates the changes in Robert's behavior on this scale throughout treatment. Regular tracking of the ECBI score provided information that allowed us to monitor Robert's behavior closely during treatment.

Special steps were taken to tailor the intervention to Robert's medical condition. For example, a toy "doctor kit" was used during CDI sessions to improve his behavior in the medical setting. During Ms. Smith's interactions with Robert, she was coached by the therapists to model appropriate behavior, such as sitting very still during the pretend blood draws, and to describe the reasons for her behavior. When Robert showed positive "medical behaviors" in their play, Ms. Smith learned to incorporate the reasons into her praises of Robert's behavior. Later in treatment, the second PDI session was conducted in Robert's hospital room due to a hospitalization at that time. With the therapists present, Ms. Smith learned to apply the PCIT skills directly in the medical setting. For this session, toys were placed on the bedside food tray and Robert sat in bed. A hospital chair was turned to a corner of the room to be used as a timeout chair during coaching of the PDI. The CDI interaction, which had become so positive during early sessions, continued to show warmth and enthusiasm in the hospital session. During practice of the PDI, Ms. Smith had to use several timeout warnings (given once after a

noncomply), but never had to use the timeout procedure that would follow if a warning were not obeyed. The timing of this session turned out to be fortunate, in that Ms. Smith was able to recognize early in the PDI phase the benefit of continuing to use the PRIDE skills as well as enforcing follow-through with discipline in medical settings.

RESULTS AT POSTTREATMENT

According to Ms. Smith's responses on the ECBI, CBCL, and PSI-SF at the posttreatment assessment, Robert's behavior was within normal limits on all measures, as was Ms. Smith's parenting stress. Ms. Smith's report on the NIMH DISC-IV and the CBCL Aggressive scale suggested that Robert no longer met criteria for ODD following treatment. At a 3-month follow-up, readministration of the ECBI and PSI-SF remained well below clinically significant levels, suggesting maintenance of treatment gains for both Ms. Smith and Robert following treatment (see Table I).

At the posttreatment assessment, observations of the parent–child interaction showed that Ms. Smith used the PRIDE skills more frequently than at the pretreatment assessment. Ms. Smith had learned to provide specific, labeled praise (e.g. "Thank you for sharing your toys") to reinforce Robert's appropriate behavior, rather than unlabeled praise (e.g. "Thank you"). As shown in Fig. 2, Ms. Smith increased both her labeled and unlabeled praises substantially. She also increased her Behavioral Descriptions (e.g., "You are taking the cow around the fence") and Reflections (repeating and paraphrasing) with Robert, which appeared to increase his verbalizations as well as the clarity of his speech.

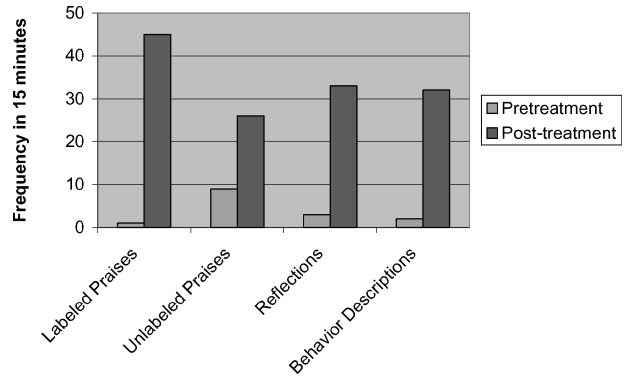

Fig. 2. Parent behaviors that give positive attention.

Ms. Smith also learned to avoid asking Questions (e.g. "Where does the stethoscope go?") and using Criticisms (e.g. "Don't move your arm while I'm trying to take your blood pressure.") during her interactions with Robert. Reducing questions allowed Robert to lead the play and minimized opportunities for coercive interactions that might begin if Robert chose not to answer. Avoiding criticism helped to maintain a positive atmosphere throughout the play, and Ms. Smith learned to use positively stated commands during the PDI to redirect Robert from negative behavior. Figure 3 illustrates the clinically significant decline in Ms. Smith's questions and criticisms from pre- to posttreatment. In addition, Robert's alpha compliance was coded during behavioral observations. Alpha compliance refers to the child's opportunity to obey or to disobey a command. Specifically, Robert's alpha compliance was 17% at the pretreatment assessment and 66% at the posttreatment assessment, demonstrating a clinically significant increase in compliance to commands.

Table I. Changes in Raw Scores of Parent-Report Measures Across Time

Measure	Pretreatment	Posttreatment	3-Month follow-up
Eyberg Child Behavior Inventory			
Intensity Scale	186	74*	66*
Problem Scale	21	0*	0*
Child Behavior Checklist			
Total score	46	11	—
Externalizing Subscale	19	5*	—
Internalizing Subscale	12	2	—
Parenting Stress Index—Short Form			
Parental distress Scale	35	12*	14*
parent–child Dysfunctional Interaction Scale	33	18*	19*
Difficult child Scale	46	27*	19*
Total stress Scale	114	57*	49*

Note. Dashes indicate that the measure was not administered at the 3-month follow-up. Asterisks indicates clinically significant change from pretreatment.

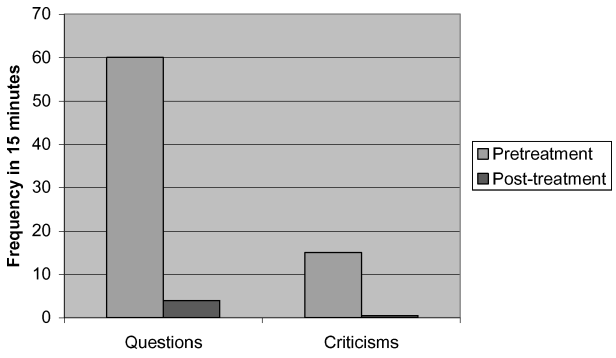

Fig. 3. Parent behaviors that lead to conflict.

Reports from Robert's physician and his social worker suggested that the improvements in his compliance and disruptive behavior extended to his clinic and hospital visits. Before treatment, both his physician and social worker reported that Robert had at least one temper tantrum during each outpatient hospital visit, which typically included screaming, clenching his fists, and engaging in destructive behavior with the iv pole, as well as hitting his mother. His social worker reported that Ms. Smith appeared distressed and overwhelmed and "did not know what to do" during Robert's temper tantrums. Following a hospital visit after PCIT had ended, Robert's physician remarked that he did not recognize Robert by his improved behavior. He described Robert as "endearing, polite, and completely compliant." Robert's social worker described similar changes, commenting specifically that Robert had become much more compliant and was no longer aggressive during medical treatments. Robert's physician and social worker both reported an improvement in Ms. Smith's mood and distress.

CONCLUSION

This paper describes preliminary evidence of the effectiveness of PCIT in treating the disruptive behavior of children with chronic illness. The behavioral changes in a young boy with cancer generalized to the medical setting and were maintained for at least 3 months after treatment ended. Results indicated that treatment improved the mother–child interaction, with a decrease in critical, demanding parenting behaviors and an increase in child compliance. Anecdotal evidence from Robert's mother, physician, and social worker indicated generalization of treatment gains to medical outpatient appointments and hospitalization. This single case study provides important support for the hypothesis that treatment gains from PCIT extend to the medical setting in children with chronic illness. It will be important now to test this hypothesis formally in a randomized controlled trial.

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