

Review Article

Parent-Child Interaction Therapy for Children in Medical Settings

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ABSTRACT

Disruptive behavior is prevalent in young children in medical settings (e.g., primary and specialty care) and may result in poor health outcomes for the child as well as increased health care system costs [1,2]. Primary care may serve as an opportune environment to detect early behavioral concerns in preschoolers through screeners at well-child visits. For chronic illness populations, parents may feel increased pressure to ensure that their child is engaging in disease management and, therefore, may resort to ineffective parenting strategies that are comprised of inconsistent discipline and coercion [3]. Currently, few

empirically supported treatments have been assessed that target the treatment of behavior concerns with young children in medical settings. Parent-Child Interaction Therapy (PCIT) is a promising evidenced-based intervention for caregivers and children in medical settings, including children with chronic illnesses, as it focuses on increasing positive parent-child interactions and child compliance.

MeSh Headings/ Keywords: Child behavior problems, Parent-Child Interaction Therapy, PCIT

Introduction

Disruptive behaviors, such as defiance and aggression, may result in poor health outcomes for children and increased health care system costs [1,2]. Behavioral concerns are often a complaint listed by parents of children seen in primary care clinics and are prevalent in children with chronic illness [4,5]. A recent meta-analysis determined that behavioral parent training (BPT) programs are the most empirically supported intervention modality for preventing and treating child behavioral problems [6]. However, there is limited research on parenting interventions in the context of primary care or with parents of children with chronic illness. BPT programs are designed to teach strategies to alter negative patterns in child and parent interactions, which contribute to the onset and maintenance of disruptive behavior, including noncompliance [3]. Essential components for effective parenting programs include increasing consistency in discipline and positive parent-child interactions, as well as promoting communication about emotions and effective use of time-out [7]. BPT programs have been shown to reduce ineffective parenting styles and parenting stress and increase parent self-efficacy in managing their child's behavior [3]. One well-established therapy with a strong evidence base that contains all of the key elements of effective parenting programs and has been tailored for multiple populations is Parent-Child Interaction Therapy [PCIT; 8-11].

Overview of Parent-Child Interaction Therapy

Parent-Child Interaction Therapy (PCIT) is an evidence-based treatment for children ages 2-7 years with disruptive behavior disorders [9,12,13]. It is distinct from other behavioral parent training programs in that it involves the parent-child dyad and uses live parent coaching to reshape parent-child interactions that contribute to challenging behavior [14]. Treatment sessions typically occur in a playroom with a therapist sitting behind a one-way mirror and coaching the caregiver via a bug-in-the-ear (e.g., Bluetooth) device. Numerous empirical studies have demonstrated the effectiveness of this intervention in significantly reducing externalizing problems in young children and maintaining these effects several years post-treatment [11,12,15,16].

PCIT consists of two phases: (1) Child-Directed Interaction (CDI), wherein parents are taught positive parenting skills and to follow in their child's play and (2) Parent-Directed Interaction (PDI), wherein parents learn how to deliver effective commands and implement consequences for noncompliance [8]. During CDI, parents are taught to use "PRIDE" skills (i.e., praise, reflections, imitation, behavior descriptions, and enjoyment) during play to reinforce the child's positive behaviors and avoid questions, commands, and negative statements. Parents are asked to practice these parenting skills

at home during a daily 5-minute play interaction with their child in order to promote skill acquisition and carryover to the home environment. During PDI, parents learn to deliver commands that are effective (i.e., singular, specific, direct, and positively stated) and to differentiate their responses to compliance versus noncompliance. Compliance is met with enthusiastic praise, which serves as a social reinforcement for the child, and noncompliance is consistently met with a predictable set of disciplinary actions, including a warning followed by placement in a time-out chair.

The length of treatment typically varies from 12-20 weekly, hour-long sessions, but is ultimately determined by in-session parent mastery of CDI and PDI skills [9], as well as behavioral improvements to within normal limits on the Eyberg Child Behavior Inventory [17,18]. In CDI, parents must meet the mastery criteria of 10 labeled praises, 10 reflections, 10 behavioral descriptions, and fewer than 4 commands, questions, or negative statements in a 5-minute play interaction. PDI mastery criteria requires parent commands to be at least 75% effective and correctly followed through (i.e., labeled praise for each compliance, time-out sequence for each noncompliance). Once parents have demonstrated CDI and PDI mastery in session, they are taught how to implement these techniques in the home and in other settings.

PCIT Adaptations

Although PCIT was initially designed to treat disruptive behaviors in young children, there is a substantial body of evidence that supports its adaptation to address a variety of other presenting problems [19]. These adaptations largely maintain the key components of PCIT and aim to improve the parent-child relationship in order to address maladaptive behavior [20].

Internalizing Disorders

PCIT has emerged as an effective treatment for young children with internalizing disorders [20,21]. In addition to reducing disruptive behavior and enhancing parent-child relationship quality, a PCIT modification (i.e., PCIT-Emotional Development, or PCIT-ED) has shown marked improvements in depression severity scores for preschool children with a diagnosis of Major Depressive Disorder, many of whom no longer met diagnostic criteria for depression post-treatment [20,21]. Extensions of PCIT have been developed for young children with anxiety disorders (e.g., separation anxiety, selective mutism) and include an anxiety-focused module that uses exposure and selectively attending to brave behavior in order to reduce symptoms of anxiety [20,22-24].

Attention-Deficit/Hyperactivity Disorder. Standard PCIT has shown promise in reducing inattention and hyperactivity symptoms for young children with ADHD [25,26]. A PCIT adaptation developed by Chronis-Tuscano et al. [27] that incorporates parent emotion-coaching skills (PCIT-Emotion

Coaching or PCIT-Eco) was found to improve ADHD symptoms in a small sample of preschoolers with ADHD.

Child maltreatment/trauma

PCIT is an empirically supported intervention for children who have experienced physical abuse from their parents. In comparison to a standard community-based parenting group, parents who received PCIT had fewer negative interactions with their children and lower rates of physical abuse recurrence [28,29]. Preliminary evidence has shown PCIT to significantly reduce sexual concerns (e.g., problematic sexual behavior, sexual anxiety) and externalizing behavior among a group of 3-8-year-old children, many of whom had a confirmed or alleged history of sexual abuse [30].

Autism Spectrum Disorder

Recent studies have demonstrated the initial efficacy of PCIT and modified versions of PCIT in improving outcomes for children on the autism spectrum by reducing externalizing behaviors [31-33]. In addition to improving child disruptive behaviors, PCIT has been found to improve social awareness [34], as well as shared positive affect and adaptability for children on the autism spectrum [34,35]. Doo [36] demonstrated the effectiveness of PCIT in reducing parenting stress, depressive, and negative parent-child interactions for Korean children with autism. Modifications of PCIT for children with autism include using PRIDE skills and play commands to target ASD-related problem behavior, such as limited eye contact, rigidity, aggression, or lack of social engagement [32].

Younger Children

Although standard PCIT is designed to treat behavioral disorders in children between the ages of 2-7, an adaptation for toddlers (PCIT-Toddlers) has been developed to meet the unique developmental needs of this younger age group [37]. PCIT-Toddlers fills a gap in intervention by expanding the scope of PCIT to children between 12-24 months of age with social-emotional difficulties. This adaptation differs from standard PCIT in that it introduces the CARES Model, a series of steps to support toddlers during intense emotions or behaviors: come in, assist, reassure, emotionally validate, and soothe. Another key difference of this adaptation is that toddler noncompliance is viewed not as intentional defiance, but rather insufficient learning and behavioral practice. Noncompliance to simple commands is met with a guidance compliance procedure instead of the time-out procedure in standard PCIT. A pilot study evaluating the effectiveness of an early version of PCIT-Toddlers showed a decrease in child disruptive behaviors and parental depressive symptoms, an improvement in parenting skills, and high program satisfaction [38]. An ongoing randomized control trial of 27 parent-toddler pairs reported significantly larger decreases in both externalizing and internalizing symptoms and greater improvement in positive parenting skills for those receiving PCIT-Toddlers than those in the waitlist control group [39].

Not only is PCIT-Toddlers an early intervention program for children already exhibiting behavior difficulties, but it can also be used as a preventive treatment for toddlers who are at risk of developing clinically significant behavior problems [37]. The implications of PCIT-T's scope and impact are far-reaching: toddlers who would likely be referred for PCIT at age 2 can be treated up to a year earlier with PCIT-Toddlers and may no longer need therapy services by their second birthday due to a reduction in child behavior problems and an increase in parents' behavior management skills.

Alternative Formats

Although PCIT typically occurs in a clinic setting, several adaptations have been developed to offer families alternative formats for service delivery. Preliminary studies on home-based adaptations of PCIT have demonstrated significant improvements in parenting skills and child disruptive behaviors that were comparable to those observed in clinic-based PCIT [40-42]. For example, Bagner and colleagues demonstrated the effectiveness of a home-based version of PCIT in improving infant problem behaviors [43,44]. Additionally, home-based PCIT removes barriers to treatment for many families (e.g., transportation, childcare), thereby making them more likely to complete treatment than families receiving services in a clinic setting [40,45,46]. Internet-delivered PCIT (I-PCIT) provides families with another home-based format: therapists provide live parent coaching remotely using a video-teleconferencing platform and Bluetooth earpieces. Preliminary findings from a randomized trial of I-PCIT show promising results in reducing challenging child behaviors and caregiver burden post-treatment and maintaining these outcomes at 6-month follow-up [47].

The Utility of PCIT in Medical Settings

Given the effectiveness of this intervention in improving the parent-child relationship and child compliance, Parent-Child Interaction Therapy (PCIT) shows great promise in the medical setting, where parents often need to effectively address noncompliance in their child's behavior. Therefore, PCIT has the potential to empower parents to develop better daily routines and to encourage their children with chronic illnesses to carry out health-related activities (e.g., taking medications) that they might otherwise resist. Additionally, as parents of children with chronic illness often feel ineffectual in their ability to manage their child's illness, training in effective behavior management through PCIT is likely to increase their confidence and self-efficacy across multiple parenting domains [3]. PCIT has been tailored to the specific needs of diverse populations [10,24,28,48] including applications in primary care settings, but has not yet been adapted for children with chronic illness.

Rationale for Parent Child Interaction Therapy in Primary Care

Behavioral health professionals are being integrated into the primary care practice setting with increasing frequency [49]. The most commonly utilized model for the integration of care is co-

location of a behavioral health specialist in a primary care clinic. A combination of parent training and anticipatory guidance appears to be essential for psychosocial interventions that are designed for children who are identified by routine screen during well-child visits at their primary care [49]. Conversely, children with more complex psychosocial concerns or burdensome medical regimens may require referrals for outpatient mental health care. The success of interventions delivered in primary care on an individual patient level is complemented by the potential public health benefits, such as proximity, ease of access, familiarity of the staff and acceptability by patients and families [10]. Several researchers have taken advantage of the integrated model to evaluate the delivery of manualized interventions for disruptive behavior problems by behavior health specialists [10,50,51]. For example, the effectiveness of an abbreviated version of PCIT has been evaluated for use in a pediatric primary care setting [10].

Berkovits and colleagues [10] conducted a pilot trial in order to evaluate two abbreviated versions of PCIT in the primary care setting: Primary Care PCIT and PCIT-Anticipatory Guidance. In Primary Care PCIT, parents attended 4 group sessions comprised of two CDI sessions and two PDI sessions. In PCIT-Anticipatory Guidance, parents received written materials in the mail detailing CDI and PDI skills and how to use them. Primary Care PCIT was designed as a preventative intervention for children with subclinical (emerging) behavior problems seen within primary care [10]. Parents in the Primary Care PCIT group were provided with in vivo coaching by a therapist and were given the opportunity to observe the coaching sessions of other parent-child dyads to enhance parent learning and motivation. Although the authors hypothesized that families receiving Primary Care PCIT would show greater changes in child and parent outcome measures than families in PCIT-Anticipatory Guidance, there were no significant differences in outcomes between the two versions. Both interventions saw significant improvements in disruptive child behavior, particularly in comparison to the lack of behavioral improvement during a comparable time frame prior to the start of treatment. The authors concluded that both face-to-face interventions and use of written materials may be effective in addressing subclinical behavioral concerns in young children [10].

Researchers suggest that primary care appointments provide a unique opportunity for early detection of behavior problems in children before they become problematic in educational and social settings [52,53]. Discussion about behavioral concerns may be integrated into traditional screening questions for a number of common concerns during routine well-child visits. However, the needs of children with chronic illnesses and their parents may be more demanding than can be addressed at a well-child visit and issues with noncompliance to medication-taking or other aspects of the child's medical regimen may become more apparent in specialty clinics for their children's chronic illness (e.g., pediatric endocrinology clinic). Therefore, future research is needed to determine the effectiveness of PCIT for children with chronic illness and their parents.

Rationale for Parent-Child Interaction Therapy with Pediatric Chronic Illness

Support for the use of PCIT in a pediatric chronic illness population can be found in parent-focused interventions to increase adherence to dietary recommendations [54,55]. In a study comparing meal-time behaviors of preschoolers with Cystic Fibrosis (CF) to healthy children, results indicated that children with CF engaged in more disruptive behaviors during meals including talking, spending time away from the table, and refusing food (Stark et al., 2000). In the same study, parents of children with CF were more likely to use strategies such as coaxing, commanding, and physically prompting their child to engage in appropriate mealtime behavior. Behavior-management strategies, such as differential attention (i.e., praising and ignoring), are an essential component of the CDI phase of PCIT [9]. In an intervention study conducted by Stark and colleagues [54,55], differential attention was taught in combination with nutrition education to parents of children with CF. Results of this pilot study revealed significant decreases in child disruptive behavior and an increase in appropriate eating behavior during mealtime [56]. One limitation to this study was that researchers chose not to teach timeout procedures as timeout is typically not recommended for use with noncompliance to eating and sleep behavior [55]. However, PCIT may provide parents of children with chronic illness the opportunity to learn effective behavior management strategies that will generalize to mealtime behavior and other medically relevant activities.

Several case reports describe the successful use of PCIT with children with various chronic conditions, such as diabetes and bladder cancer [4,57]. These case reports provided specific examples of how PCIT procedures were adapted to the child's medical conditions. For example, the parent and child utilized a toy "doctor kit" during CDI sessions to model appropriate behavior (e.g., sitting very still during pretend blood draws), provide the reasons for behavior (e.g., breathe deeply so the doctor can hear your lungs), and create opportunities for the parent to praise "positive medical behavior" [57]. In one of the case studies, the authors explained how the therapist coached the parent through a PDI session in the child's hospital room [4]. The PCIT skills taught to the parent of a young boy with bladder cancer generalized to the medical setting and were maintained for at least 3 months after the end of treatment [4]. These case studies of PCIT in children with chronic illness provide initial promise that this evidenced-based treatment may be effective in reducing noncompliance in children within medical settings.

Successful child compliance to parent commands is essential to complete medically related tasks and is crucial for the prolonged health of a child with chronic illness. However, noncompliance is common and may include behaviors, such as physical aggression, refusal to take medications, and difficulty transitioning from one setting or activity to another [4,57]. Parents may feel increased pressure to ensure that their child is engaging in disease management and, therefore, may resort to ineffective parenting strategies that are comprised of inconsistent discipline and coercion [3]. Parents of children with

chronic illness may benefit from the PCIT protocol because they will learn to use positive and predictable strategies to create a positive attachment with their child, assist in their child's adjustment to chronic illness, and reduce disruptive behavior [9]. Further, the PCIT protocol teaches parents to create routines in their child's life using a consistent approach that will decrease child and parent stress and will likely increase parents' self-efficacy in managing their child's illness [3]. For these reasons, future research efforts should be directed at evaluating PCIT in the multiple settings in which chronically ill children receive care.

Future Directions

There exists a deficit in clinical data and a paucity of empirical studies pertaining to parenting interventions in the context of primary care or with parents of children with chronic illness. Although case reports and preliminary studies suggest that PCIT may be tailored to target specific behaviors salient to parents of children with chronic illnesses and in primary care [4,57], the standard PCIT model must first be empirically tested to determine the validity of the program prior to adaptation. Therefore, there is a need for future randomized control trials comparing standard PCIT models and PCIT adaptations for the context of primary care and to meet the needs of children with chronic illnesses [14].

Conclusion

Parent-Child Interaction Therapy has utility in medical settings as a mechanism for parents to alter their interaction style to promote child compliance. PCIT equips parents with the skills needed to create a nurturing and predictable environment for their child. Often in medical settings children are subjected to procedures (e.g., drawing blood) in which compliance is necessary. Therefore, when presenting at primary care clinics, externalizing behavior concerns in children are often most salient and may be detectable prior to the development of clinically significant behavior disorders. For children with chronic illnesses (e.g., asthma, type 1 diabetes), PCIT may assist in preserving parent-child attachment in traditionally unpredictable environments (e.g., extended hospital stays) and aid in daily medication regimen compliance (e.g., taking a daily corticosteroid). As the psychosocial demands of children with chronic illness and their parents can be complex [58], families may need to seek additional services to address these problems. Research is greatly needed in this area to assist behavior health providers in exploring the efficacy of PCIT in medical settings.

Resources

Medical providers can refer families to the PCIT International website (<http://www.pcit.org/find-a-provider.html>) and the UC Davis PCIT website (<https://pcit.ucdavis.edu/find-a-provider/>) to find a provider in their area. Additionally, there are a number of PCIT resources available to families online, including an interactive guide to PCIT (<https://www.pocketpcit>).

com), video modules and handouts for families and therapists through the Association of University Centers on Disabilities (<https://www.aucd.org/template/page.cfm?id=1023>), handouts on PRIDE skills (https://pcit.ucdavis.edu/wp-content/uploads/2012/08/27_PRIDEskillsrevised10.111.pdf), and handouts for a PCIT adaptation for toddlers (http://www.pcit-toddlers.org/forms-handouts/06_PCIT-T_PRIDE_Do_and_Dont_Skills_Girard_E.I._et_al._2018.pdf).

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