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Outcomes of Parent–Child Interaction Therapy in an urban community clinic: A comparison of treatment completers and dropouts

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ABSTRACT

This study examined outcomes of Parent–Child Interaction Therapy (PCIT) for 52 clinically referred children with oppositional behavior and their parents treated in an urban, community mental health clinic serving demographically (i.e., income level, ethnicity) diverse families. Standardized observations of parent–child interactions and parent reported measures of child behavior were collected at pre- and post-treatment. We addressed two primary research questions: (1) What are pre-treatment predictors of treatment completion? (2) What are treatment outcomes both for families who successfully completed PCIT and for treatment dropouts? Multiple logistic regression results showed a significantly greater likelihood of treatment completion related to higher parent education, male child gender, and two parent households. Among families who completed treatment, pre–post data demonstrated significant parent change in observed skill use and improvement in parent reported disruptive behaviors with medium to large effect sizes. Findings also documented early treatment benefits for families who completed the first phase of PCIT but dropped out in the final phase prior to meeting full graduation criteria. We discuss the findings and implications for community-based applications of PCIT in the context of community mental health's mission to provide effective treatment and maximize community access to services.

1. Introduction

Disruptive behavior (e.g., a pattern of frequent or severe opposition, noncompliance, and/or aggression), which often is accompanied by symptoms of inattention and hyperactivity, is a prevalent and costly childhood mental health concern (Furlong et al., 2012; Jones, Dodge, Foster, Nix, & Conduct Problems Prevention Research Group, 2002). Meta-analyses of several evidence-based, behavioral parent training models support the efficacy of using parents as change agents for treating disruptive child behavior (Furlong et al., 2012; Kaminski, Valle, Filene, & Boyle, 2008; Reyno & McGrath, 2006). Despite extensive research showing the benefits of parent training and other evidence-based treatments (EBTs) for disruptive behavior, delivery of EBTs is rare in community-based settings (Forgatch, Patterson, & Gewirtz, 2013). Further, treatment in usual care, community-based clinics has demonstrated limited effectiveness, especially when compared to the larger effects demonstrated in controlled trials of evidenced-based interventions (Kazak et al., 2010; Weisz, Ugueto, Cheron, & Herren, 2013). Thus concern exists as to whether treatment can be delivered effectively in community settings and which variables may differentially affect treatment outcomes.

Currently, there is an increasing emphasis on implementing EBTs in community settings through state, federal, and policy-based initiatives (Kazak et al., 2010; National Institutes of Mental Health, 2008). Compared to traditional research trials, clients in community settings are more likely to be of lower socio-economic status (SES), live in single parent households, be more ethnically diverse, and present with conditions (e.g., comorbidities, cognitive limitations) that historically have excluded them from controlled research trials (Weisz et al., 2013). Interestingly, one meta-analysis found that parent management training outcomes had similar effect sizes regardless of how many "real-world" practice attributes were present in each study, but the effects of child and family-level variables on outcomes were not examined (Michelson, Davenport, Dretzke, Barlow, & Day, 2013). Trials examining the effectiveness of EBTs in community settings are needed to better understand how real-world factors influence treatment and to improve applicability to diverse youth's everyday contexts.

The current study expands on our previous research investigating the transportability of an EBT for disruptive behavior disorders, Parent–Child Interaction Therapy (PCIT), to an urban community mental health center (CMHC) housed in a university setting [references removed to retain anonymity]. PCIT is a parent training program based on attachment and social learning theory which has received substantial empirical support in the treatment of 2- to 7-year-old children with disruptive behavior (Thomas & Zimmer-Gembeck, 2007). PCIT is composed of two sequential treatment phases: Child-Directed Interaction (CDI) focuses on improving parent communication skills and

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increasing parental responsiveness to strengthen the parent–child relationship, and Parent-Directed Interaction (PDI) focuses on teaching parents consistent use of specific discipline strategies to reduce negative child behaviors (Eyberg & Funderburk, 2011).

Little is known about the effectiveness of PCIT in community settings compared to outcomes of PCIT efficacy trials. Self-Brown et al.'s (2012) benchmarking study compared child behavior change outcomes in families who completed PCIT in their community sample to aggregated outcomes reported in a sample of six randomized control trials (RCTs) of PCIT. Parents in their predominantly low income community sample reported significantly greater positive child behavior change than parents in the aggregate control group, but significantly less change than parents in the aggregate treatment group from the efficacy studies. The relevance of SES on PCIT outcomes in the Self-Brown et al. (2012) study is consistent with meta-analyses of parent training that have found economically disadvantaged families to have less successful outcomes in behavioral parent training than non-disadvantaged families over time (Leijten, Raaijmakers, de Castro, & Matthys, 2013; Lundahl, Risser, & Lovejoy, 2006).

1.1. Attrition in CMHCs and PCIT

High treatment attrition presents a particular challenge for implementing EBTs in CMHCs. Attrition in outpatient child treatment has typically been reported between 40% and 60%, with clients attending a mean of fewer than five sessions (Harpaz-Rotem, Leslie, & Rosenheck, 2004; McKay & Bannon, 2004; Wierzbicki & Pekarik, 1993). Socio-demographic variables such as low socio-economic status (SES) or minority status often have been associated with dropout (e.g., Kazdin, 1996; Lavigne et al., 2010), but findings are inconsistent (Armbruster & Kazdin, 1994). One possible source of inconsistency is that measurement tools for SES (e.g., income, education, occupation) vary across studies, and indeed research has found differing results depending on the measure used (Reyno & McGrath, 2006). Another explanation is that the predictive role of SES or minority status may be minimized in community samples that tend to present more homogenously on these variables (Brookman-Frazee, Haine, Gabayan, & Garland, 2008). Often in community samples there is a sizeable proportion of low SES participants (i.e., limited variability), which could restrict the opportunity to study the relationship of SES to treatment outcomes.

In addition, child and family variables (e.g., problem severity, single parent status) are sometimes associated with dropout (Brookman-Frazee et al., 2008), but effect sizes for these predictors are often small (Reyno & McGrath, 2006). Numerous studies have investigated parent age, child age, and child gender as predictors of treatment dropout or attendance with mixed results. Some studies have found a significant relationship between these factors and treatment dropout (e.g. Firestone & Witt, 1982; Kazdin, Mazurick, & Bass, 1993; Nix, Bierman, & McMahon, 2009), but others have not (e.g. Harpaz-Rotem et al., 2004; Lavigne et al., 2010). Although child gender has typically not been found to relate to dropout in the parent training literature, lower rates of treatment-seeking for behavior problems in young females make this question difficult to study (Bussing, Zima, Gary, & Garvan, 2003; Thompson, 2005). Other variables, such as severity of child behavior problems, have also been associated with dropout. For example, Reid, Webster-Stratton, and Baydar (2004) found that families of children with higher levels of behavior problems were less likely to drop out of behavioral parent training.

A handful of PCIT studies have investigated variables associated with attrition. Fernandez, Butler, and Eyberg (2011) reported dropout in their sample of African American participants was higher (56%) than in other PCIT efficacy studies. Lower SES and income have predicted attrition in some PCIT studies (Fernandez & Eyberg, 2009; Lanier et al., 2011) but not others (Werba, Eyberg, Boggs, & Algina, 2006). Bagner and Graziano (2013) found that single parent status was predictive of dropout in PCIT serving young children with a developmental delay, but Werba et al. (2006) found no attrition differences based on single parent status. Some PCIT studies have found parent observational variables measured at baseline, including higher negative talk (a combination of observed criticism and sarcasm toward the child), lower praise, and more severe child behavior problems, as predictive of treatment dropout (Fernandez & Eyberg, 2009; Werba et al., 2006). Few PCIT studies have gone beyond attempts to predict attrition to examine outcome differences between treatment completers and dropouts. However, in a unique study, Boggs et al. (2004) found that treatment completers had significantly more positive outcomes on rating scales than treatment dropouts at follow-up, including fewer reported child behavior problems and lower parental stress. Furthermore, treatment dropouts showed statistically non-significant improvements with small to medium effect sizes on four out of five outcome measures between pretreatment and follow-up.

To date, a limited number of randomized controlled trials (Chaffin et al., 2009; McCabe & Yeh, 2009) and PCIT case studies or quasi-experimental investigations have been reported with clinically referred samples in community settings (Budd, Hella, Bae, Meyerson, & Watkin, 2011; Lanier et al., 2011; Lyon & Budd, 2010; Nieter, Thornberry, & Brestan-Knight, 2013; Pearl et al., 2012; Phillips, Morgan, Cawthorne, & Barnett, 2008; Self-Brown et al., 2012). Findings suggest wide variability in rates of attrition, from 12% to 69%. Wide variations in client characteristics (e.g., ethnicity, voluntary versus mandated treatment), treatment settings (clinic versus home), and completion criteria (e.g., completion of full PCIT treatment protocol versus attendance at a minimum number of sessions) across these community-based studies limit understanding of factors related to differing attrition rates. Treatment outcomes in the community-based case studies and quasi-experimental investigations have relied on changes in parent-report measures, and these studies often do not include observational data nor do they report formal assessment of treatment fidelity.

1.2. Purpose of this study

In order to address limitations in community-based applications of PCIT and given evidence that socio-demographic characteristics of families served may contribute to treatment dropout, this exploratory study sought to add to the knowledge base about PCIT with demographically (e.g., SES, ethnicity) diverse families. Studying factors that contribute to treatment dropout and examining outcomes that include observational variables for both treatment completers and dropouts can inform strategies to increase treatment completion rates in PCIT and improve treatment outcomes for children and families served in community settings. We addressed two primary research questions:

(1) *What are pre-treatment predictors of treatment completion?* We examined whether initial levels of child behavior problems, parent observational variables, and demographic factors would predict treatment completion. We hypothesized that higher parent education, parent non-minority status, two parent households, male child gender, older child age, older parent age, higher initial levels of observed positive parenting skills ("Do" skills), lower initial levels of negative parenting skills ("Don't" skills), and higher initial child behavior problems would be associated with higher levels of treatment completion.

(2) *What are treatment outcomes for completers of PCIT versus treatment dropouts?* We hypothesized that families who received PCIT would demonstrate decreases in child externalizing behavior problems, child internalizing behavior problems, and parental stress from pre-treatment to post-treatment. We also hypothesized that treatment completers would demonstrate larger decreases in child behavior problems than treatment dropouts. Finally, we hypothesized that for treatment completers, observed positive parenting skills and child compliance would