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Lessons Learned in Enhancing Behavioral Parent Training for High-Risk Families of Youth with ADHD

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Behavioral parent training (BPT) has long been identified as an efficacious treatment approach for children with attention-deficit hyperactivity disorder (ADHD; Pelham & Fabiano, 2008). However, the extant literature indicates that high levels of adversity (e.g., parental psychopathology, high levels of stress) often place families at risk for poor attendance and engagement during BPT, as well as a limited treatment response (Chronis, Chacko, Fabiano, Wymbs, & Pelham, 2004). Single-mothers, in particular, experience multiple adversity factors that impact their involvement in BPT, including higher rates of depression and stress, less social support (Cairney, Boyle, Offord, & Racine, 2003), greater practical barriers to treatment participation (Kazdin, Holland, Crowley, & Brenton, 1997; Kazdin & Wassell, 2000), and maladaptive cognitions regarding treatment (e.g., unrealistic expectations for improvement following treatment) and their child's behavior (e.g., intentionality of misbehavior; Nock & Kazdin, 2001). Thus, it is not surprising that single-mother families are less likely to complete BPT (Kazdin, Mazurick, & Bass, 1993; Kazdin & Mazurick, 1994), improve following BPT (Dumas & Wahler, 1983; Webster-Stratton & Hammond, 1990), and maintain treatment gains over time (Bagner & Eyberg, 2003; Webster-Stratton, 1985).

Given the obvious need, we focused our work on developing methods to better engage single-mother families in and maximize outcomes from BPT. The Strategies To Enhance Positive Parenting (STEPP) program (Chacko et al., 2008; 2009; 2012) is a multicomponent, nine-week BPT program held for two and half hours each week. Evidence-based BPT content is presented in a collaborative, large-group format, and material is complemented by videotaped vignettes, therapist-facilitated questions, group discussions, modeling, and role-

play by parents. Children participate in a concurrent group-based social skills program. These methods, content, and procedures are common to many BPT programs.

Several additions were made to the STEPP program to address major areas identified in the literature that are important to target with single-mothers, including practical barriers to treatment participation, parents' maladaptive cognitions regarding their child and treatment, depression, social support, and life stressors (see Chacko et al., 2008; 2009, for details). Specifically, several enhancements to the format, delivery, and content of traditional BPT were made, including: (1) an enhanced intake procedure aimed to improve parents' motivation to engage in treatment. This was accomplished through addressing possible practical barriers to treatment participation, maternal cognitions regarding expectations for treatment, and parental attributions regarding their child's behavior (McKay, Stoewe, McCadam, & Gonzales, 1998; Nock & Kazdin, 2005). For instance, open-ended questions were asked of single-mothers regarding their expectations about their own and their child's involvement in treatment (e.g., What role do you think you will have in treatment? In what way do you think your child will be involved in treatment?). Single-mothers were also asked open-ended questions regarding expectations for their child's improvement (e.g., How fast do you expect to observe improvements in your child's behavior?) and their attributions regarding locus of control of their child's behavior and the effects of their parenting on that behavior (e.g., What do you think causes your child to misbehave?). Misconceptions or inappropriate expectations regarding these issues were discussed and clarified with the single-mother during the intake. Last, practical barriers (e.g., childcare, transportation) to ongoing involvement were addressed, and solutions to these barriers were developed during the intake; (2) the incorporation of a subgroup, coping-modeling, problem-solving format within the traditional large group format to improve social support between parents and to increase participation among parents (Cunningham, Davis, Bremner, Dunn, & Rzasa, 1993); (3) the incorporation of a systematic, problem-solving treatment method approach (D'Zurilla & Nezu, 1999) to address parent-initiated problems (e.g., time management, conflicts with relatives) that may either interfere with their parenting or affect their psychosocial functioning (e.g., Kazdin & Whitley, 2003; Pfiffner, Jouriles, Brown, Etscheidt, & Kelly, 1990;); (4) the addition of parent-child interactions within the children's social skills group to enhance parenting skill acquisition; and (5) the addition of a child motivation enhancement within the children's social skills group in order to provide children with incentives for attaining within-session and home-based behavioral goals.

Engagement and efficacy outcomes demonstrated clear benefits of the STEPP program compared to a wait-list control condition and a traditional, group-based BPT program (Chacko et al., 2009; 2012). More specifically, results demonstrated that, relative to traditional BPT, the STEPP program resulted in acute improvements on measures of oppositional defiant behavior, key areas of impairment (e.g., parent-child and family-related impairment), observational measures of parenting behavior, and parenting stress. Moreover, the STEPP program had significant effects on increased attendance, homework compliance, and greater consumer satisfaction. Recently published analyses also demonstrated that there was a greater propensity for families to attend each session and to complete each homework assignment during the course of the STEPP program than during the course of the traditional BPT program. Survival analyses of time-to-dropout suggest similar patterns of dropout

between both treatment groups, although the amount of dropout was significantly attenuated in the STEPP program (10% dropout in the STEPP program compared to 65% dropout in the traditional BPT condition). In addition, compared to traditional BPT, the STEPP program enhanced/improved key empirically related factors hypothesized to affect engagement (e.g., amount and quality of social support between mothers within their group, expectations regarding treatment, perceived barriers to treatment participation), which were targeted within the STEPP program (Chacko et al., 2012).

Collectively, the data suggest that there are some clear benefits of the STEPP program relative to a more traditional BPT for single-mother-headed families of school-age youth with ADHD. These effects appear most robust for engagement outcomes. Importantly, there are also clear limitations of this treatment. While outcomes were significantly better for families in the STEPP program relative to the traditional BPT program, STEPP resulted in clinically significant improvements for only a minority of children on ADHD and ODD symptom outcomes, and maintenance of gains, at the group-level, was not observed at 3-month follow-up assessment.

FUTURE DIRECTIONS

This clinical trial underscored issues regarding the utility of BPT as a treatment for high-risk families of youth with ADHD. In particular, we discuss three issues below that have emerged in this work as important to consider when providing BPT to families. These include: (1) the co-occurrence and imprecision of risk factors that parents experience; (2) homework (HW) completion, although theoretically a critical link to observed improvements, as a significant limiting issue for attaining full benefits of BPT; and (3) observed maintenance of gains that is not straightforward for high-risk families. We discuss these issues, along with clinical and research implications.

CO-OCCURRENCE AND THE IMPRECISION OF RISK FACTORS IN PARENTS

Much evidence exists that underscores multiple risk factors experienced by parents of youth with ADHD. For instance, parents of children with ADHD have greater levels of general psychological impairment and psychopathology; these include maternal and paternal ADHD (e.g., Alberts-Corush, Firestone, & Goodman 1986; Chronis et al., 2003), major depression, and anxiety, which is even more pronounced when there is comorbid ODD/CD (Chronis et al., 2003; Nigg & Hinshaw, 1998). Mothers of children with ADHD and comorbid ODD/CD also have higher rates of stimulant/cocaine dependence, and fathers are more likely to have a history of aggression, arrest, imprisonment (Lahey et al., 1988), and increased drinking problems (Chronis et al., 2003). This is especially noteworthy given that 20–56% of children with ADHD are also often diagnosed with ODD or CD (Barkley, 1998). Higher levels of parenting-related and other stressors have also been documented in this population (Barkley, Fischer, Edelbrock, & Smallish, 1991; Mash & Johnston, 1983) as well as lower levels of self-esteem and increased self-blame and social isolation (Fischer, 1990; Mash & Johnston 1990). In turn, parental psychopathology influences factors such as parental involvement, positive parenting, and consistent use of discipline (e.g., Chronis et al., 2008). Marital

problems, divorce, and family conflict are also more prevalent in families with youth with ADHD compared to those with typically developing children (Wymbs et al., 2008).

Although there are clearly a myriad stressors/risk factors experienced by parents of children with ADHD, we have focused on single-parent status as a particular risk factor, given that it serves as a proxy for the multiple risks, as mentioned previously. Specifically, our single-mother sample includes a significant portion with high levels of depressive symptoms (based on scores on the Beck Depression Inventory) and who are low income (based on federal poverty guidelines)—factors known to attenuate engagement and outcomes following BPT (Chronis et al., 2004). Based on normative data on available measures, many parents in our sample exhibit significant levels of parenting stress, low levels of parenting efficacy, and punitive parenting practices. Moreover, although we did not collect this information, a significant number of these single parents would likely also meet criteria for ADHD themselves, given that a substantial minority of parents of children with ADHD also have ADHD—another known factor to moderate response to BPT (Sonuga-Barke, Daley, & Thompson 2002). Last, rates of comorbid child ODD/CD in our sample approached 80%. In line with the extant data reviewed above, this suggests that there is a complex clinical picture for many single-mother-headed families who present to treatment for their child with ADHD. This complexity, however, is not well reflected in the manner in which enhancements to BPT have been developed and evaluated.

To date, the majority of empirical investigation on developing and evaluating enhancements to BPT for disruptive behavior disorders (broadly defined as ADHD, ODD, CD) has taken a variable-centered approach, which emphasizes the impact of a specific risk factor (e.g., maternal depression, stress, marital discord, etc.) on engagement in and response to BPT and, subsequently, how to address the risk factor during treatment. However, as observed by clinicians and supported in our clinical trial, high-risk parents often present with multiple risk factors for poor response to BPT, not just one. As such, one must ask, to what extent does the BPT enhancement literature reflect this complexity? To our knowledge, there is no well-developed BPT protocol or methodology that has been evaluated. We believe that addressing this issue is essential for advancing the field and significantly improving outcomes to what is, arguably, the most effective psychosocial intervention for youth with disruptive behavior disorders.

From the previous paragraph, it would seem that targeting these risk factors is always necessary to improve engagement in and response to BPT. However, data from our study, as well as others, suggest a more complicated story. Although it is clear that multiple factors/processes often influence response to BPT, as described above, these factors are imprecise predictors of treatment engagement and response. In other words, having one or more of these factors at the start of BPT does not *guarantee* that there will be poor response and engagement to BPT. For instance, in our work, we found that although there are *significant group differences* between the STEPP program and the traditional BPT program on various outcomes, some families in the traditional BPT program can obtain reliable and clinically meaningful improvements. More specifically, we found that 21% of families in the traditional BPT who completed treatment obtained clinically significant change on parent-reported child behavioral problems. This is not unique to our study alone. Sanders and

McFarland (2000) evaluated the incremental benefits of an enhanced BPT that targeted maternal depression compared to traditional BPT and found significant benefits of the traditional BPT in a group of mothers with clinical depression. Specifically, 50% of participants in the enhanced BPT achieved clinically significant levels of improvement in child behavior and maternal depression immediately following treatment. Interestingly, 24% and 40% in the traditional BPT group also achieved clinically significant levels of improvement on child behavior and maternal depression, respectively. These data point to an important fact: traditional BPT is a robust psychosocial intervention for children with disruptive behavioral disorders. As such, participating in BPT often results in clinically significant improvements for families, and enhancements to BPT may provide incremental benefit on outcomes for a subset of families. For others, despite having significant risk factors, traditional BPT may be sufficient.

What are the clinical implications of these findings for practice and research? We have begun to consider this issue, and at first glance, there appear to be fundamental questions that remain unanswered. For example, what is it about each of these risk factors that attenuate engagement and response to BPT, and are there shared processes? Is there a principle risk factor/process or keystone risk factor/process that (if addressed) would impact the others or have the most robust effects? If common or discrete factors/processes are identified, should they always be targeted, and if so, is there a benefit to targeting these factors/processes immediately? Our perspective is that this may not always be necessary. Rather, a response-to-treatment approach (i.e., adaptive designs; Collins, Murphy, & Bierman, 2004) may help guide timing of implementation of adjunctive components to address risk factors/processes when they are found to interfere with BPT. This may maximize efficiency of treatment by providing adjunctive treatment content to those parents who need it, when they need it. Collectively, answers to these questions may lead to more direct methods to address how and when to best target these multiple risk factors. For instance, perhaps there is an intervention enhancement modality (e.g., cognitive behavioral treatment) that can be flexibly applied to address multiple risk factors/processes. Or, perhaps a treatment algorithm approach can be used to determine how best and when to target various parent-level processes that interfere with BPT (cf. Weisz et al., 2012, for an algorithm approach to treating comorbid child psychiatric disorder). Although multiple studies over the past few decades have addressed specific parent-level risk factors that attenuate engagement in and response to BPT, this remains an important area of investigation. It is our perspective, based on data from our clinical trial as well as from the broader literature, that the field must move beyond a piecemeal approach and begin to better understand how the multiple risk factors parents experience are connected and interfere with BPT. Doing so will allow for more refined and impactful enhanced BPT approaches.

HOMEWORK (HW) COMPLETION

HW is a ubiquitous and critical component of psychosocial treatments, and there is a robust effect of HW completion on improvement in outcomes (Kazantzis, Whittington, & Dattilio, 2010). HW can be described as between-session exercises in which the client practices specific skills learned within-session in order to promote skill acquisition, which ultimately leads to improved acute and longer-term therapeutic benefits on targeted outcomes,

generalization of treatment effects, and maintenance of treatment gains (Kazantzis, Deane, Ronan, & L'Abate, 2005). Collectively, data suggest that attending and being actively involved in treatment is necessary, but insufficient in producing desired outcomes following treatment. Data from BPT studies, although limited, also support this conclusion (Nock & Ferriter, 2005; Patterson & Chamberlain, 1994). This should not be surprising, as BPT, a skills-based treatment, requires parents to actively integrate and implement specific skills at home. Unfortunately, data from studies of BPT suggest that HW is all too often not completed or, when completed, is done so with poor quality (e.g., Fabiano et al., 2009). In our study, we found that HW is completed, on average, half of the time (Chacko et al., 2009). As such, this is a particularly notable barrier in maximizing the benefits of BPT, particularly in a high-risk sample.

Efforts to improve HW completion (quantity and quality) in BPT have often lacked a guiding theoretical model and have thus focused on a narrow aspect of the HW process. Kazantzis and colleagues (2005) propose four processes involved in HW implementation: (1) Designing HW; 2) Assigning HW; 3) Doing HW; and 4) Reviewing HW. The DADR model posits that specific social, cognitive, and behavioral factors related to the HW task (e.g., perceived complexity of HW), provider (e.g., ability to address obstacles to HW implementation), client (e.g., perceived self-efficacy/motivation to complete HW), and environment (e.g., environmental barriers and facilitators to implementing HW) impact the quantity and quality of HW completed. These facilitators/barriers to the DADR model have been shown to be predictive of HW compliance (Kazantzis et al., 2005).

To our knowledge, studies of BPT that have attempted to improve HW completion have typically focused on enhancing the “Do” phase (#3) of the HW process model. When attempts were made, they often focused on methods that require a considerable investment from the clinician (e.g., phone calls or e-mail check-ins with parents). These methods are unlikely to be feasible for widespread use, particularly for therapists with large caseloads and/or if these methods are not reimbursable. Moreover, to our knowledge, scant attention has been given to other aspects of the HW process. Given the hypothesized importance of HW in BPT, it appears necessary for these aspects of the HW process to be further studied. Many important questions remain unanswered, such as which aspects of the HW process are most related to HW implementation in the context of BPT; what are the barriers/issues within each aspect of the HW process that interfere with HW completion; and what can be done to address these issues?

Data that we are currently analyzing suggest that in the context of an efficacy study utilizing manualized BPT, implemented with high levels of fidelity, there are very few issues noted by parents regarding aspects of the design, assign, and review phases of the HW process, regardless of treatment condition. This may be due to the explicit focus on discussing and tailoring HW during BPT and ensuring that sufficient time is allotted for reviewing HW and the barriers to HW completion within the context of a collaborative group format; this suggests that therapists should not underemphasize these aspects of BPT. Most of the challenges that parents reported to be problematic occurred during the “Do” phase of the HW process. For instance, there were considerable issues with recall of how to effectively implement the HW, lack of time to implement HW, no support to do HW, and difficulty in

implementation of HW. The reasons noted are varied and are considerably challenging to address, given the need to be able to connect with parents, oftentimes “in-the-moment,” to help support HW implementation.

In our work, we have begun to consider the use of technology as a way to more feasibly support parents in the HW process. For instance, mobile health technology, facilitated through smartphones, has offered clients and providers the opportunity to have 24/7 contact. There is a high level of ownership of smartphones, with increasing use of this technology due to increased portability and improvements in computing power (Health Innovations, 2011). Through utilizing flexible technology and features of smartphones, HW can be designed to support and enhance factors known to affect the DADR process. In particular, mHealth offers the ideal mechanism for implementing HW in an ongoing, prospective, and tailored manner, for supporting facilitators, and for addressing barriers to the HW “Do” process. For instance, Jones and colleagues (2010) describe the use of mHealth through smartphone application for BPT that utilizes video-recording features to record parents implementing HW at home. These HW samples are then reviewed with the therapist to improve behavioral skill acquisition. Additionally, features such as global positioning system (GPS) can be used to prompt parents to utilize specific skills (e.g., utilizing reward contingencies) when approaching an identified challenging setting (e.g., grocery store). Collectively, mHealth applications via smartphones can serve as a personal HW support system carried almost anywhere and at any time, in order to provide just-in-time support in the real world. Importantly, studies specifically focused on systematically understanding the HW process, and methods to improve this process, including mHealth methods, are sorely needed to better the quality and quantity of HW completed during BPT.

MAINTENANCE OF GAINS

Studies suggest that many youth who obtain benefits from BPT often continue to evince such benefits over follow-up periods. Unlike the majority of studies that have focused on maintenance of gains, our clinical trial demonstrated that acute gains following BPT don’t always maintain, even over relatively short periods of time (Chacko et al., 2009). Maintenance of gains following BPT, particularly for youth with ADHD from families who experience considerable psychosocial stressors, would be surprising for several reasons. First, ADHD is considered a chronic condition, with many children continuing to have difficulties into adolescence and adulthood (American Academy of Pediatrics, 2011). Although multiple etiologies are likely involved in producing ADHD (Nigg, 2006), it is primarily considered a neurobiological disorder. Recent models of ADHD pathophysiology and recovery suggest that reduction of ADHD symptoms frequently seen in adolescents and young adults is accounted for, at least in part, by the development of higher order cortical control mechanisms, which can compensate for early subcortical neural deficits via top-down regulatory control (Halperin & Schulz, 2006). Thus, interventions that support cortical control mechanisms have the potential to alter long-term outcomes for children with ADHD. BPT does not appear to support development of higher cortical control mechanisms and therefore may not alter long-term recovery from ADHD (although this, to our knowledge, has not been well evaluated).

Second, many have argued (Pelham & Fabiano, 2008; Rajwan, Chacko, & Moeller, 2012) that the focus of treatment for youth with ADHD should be on impairment in daily life functioning, rather than ADHD symptoms per se, given the importance of impairment as socially valid targets and as predictors of longer-term outcomes in youth. BPT provides parents with skills to better address impairment related to their child's ADHD, and theoretically, given that parents continue to utilize these skills, impairment should be well managed. As such, one striking issue is: To what extent can parents continue to consistently implement skills over time to manage a chronic disorder, particularly parents who continue to experience stressors that often attenuate effective parenting behavior?

Given both persistence of ADHD and the notable challenges that parents, particularly those who experience multiple stressors, face in continuing to consistently apply parenting skills, attention must be given to understand how best to support these families following the completion of BPT. Recent analyses of our sample suggest, not surprisingly, that youth who function better over follow-up periods are those who continue to participate in evidence-based interventions for ADHD. This suggests that there must be in place mechanisms to monitor and provide support (e.g., booster sessions) when there are indications that youth and/or their parents are experiencing challenges. Ongoing monitoring for youth with ADHD is not a novel concept, but rather one that is relatively neglected in the BPT literature.

CONCLUSIONS

In summary, the goals of this paper were to describe the STEPP program and subsequent issues that were underscored by this work. In general, data suggest that the STEPP program resulted in improvements in some child- and parent-level outcomes for youth with ADHD relative to traditional BPT. The most compelling outcomes suggest that the STEPP program resulted in significantly better engagement to treatment across multiple time points. Despite these benefits, however, it has become increasingly clear that the complexities that parents bring to treatment require careful consideration and more integrated, rather than piecemeal, BPT approaches. Moreover, it is necessary to identify how and when to address parent-level factors that often attenuate engagement in and response to traditional BPT. We also observed that it is likely that the effectiveness of traditional BPT can be increased by focusing on improving the quantity and quality of homework completed. This has, unfortunately and surprisingly, been a neglected area of research in BPT. Given that higher-risk samples may also be more likely to face challenges in completing homework, greater attention should be paid to this issue. Last, and in line with growing recognition of ADHD as a chronic mental health disorder, there should be more consideration as to how we support parents and children after the completion of BPT. Prospective, data-driven monitoring and decision making is critical to maximizing long-term outcomes for youth with ADHD.

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