

The efficacy of parent training programs for ADHD children: A fifteen-year review

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This article reviews ten studies using parent training as a treatment approach for ADHD children. Six elements of research methods are considered: (1) type of parent training program; (2) parental psychopathological assessment; (3) parental involvement; (4) setting of treatment; (5) medication usage; and, (6) follow-up analysis. The studies were obtained through a computerized search of PsychINFO and Psychology and Behavioral Sciences Collection. Although parent training appears to be an effective treatment approach for ADHD children, the investigation revealed that all six elements of the research methods are in need of improvement. Suggestions for future research in this area are provided.

Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is a common childhood disorder that affects as many as 3% to 5% of school-age children (Fewell & Deutscher, 2002; Pelham & Gnagy, 1999). In addition to the high prevalence of ADHD, the inattentive, hyperactive, and impulsive behaviours that are associated with ADHD often lead to serious impairment in academic achievement in school, and in relationships with parents, siblings, and peers (Pelham & Gnagy, 1999). Moreover, children diagnosed with ADHD are at greater risk for a variety of serious negative outcomes, including low self-esteem, criminal behaviour, and alcohol or other substance abuse than are normal school-aged children (Mash & Barkley, 1998; Sonuga-Barke, Daley, Thompson, Laver-Bradbury, & Weeks, 2001; Weiss & Hechtman, 1993). Further, research indicates that problems for children with ADHD become progressively worse without treatment (Thomas & Corcoran, 2003). Therefore, effective treatment for childhood ADHD is of great importance.

There seems to be consensus in the empirical literature that there are three effective treatments: medication (Abikoff et al., 2004), behavior management therapy (Abramowitz & O'Leary, 1991; Dopfner, Breuer,

Schurmann, Wolf Metternich, Rademacher, & Lehmkuhl, 2004; DuPaul & Eckert, 1997), and the combination of these two (Horn, Ialongo, Greenberg, Packard, & Smith-Winberry, 1990; MTA, 2004; Pelham et al., 2005). One type of behavior management therapy is called parent training and will be the focus of this paper. This treatment has been considered as the most acceptable and effective treatment option by parents, when compared to stimulant medications alone (MTA, 1999).

There are three-well known parent training programs designed by Barkley (1987), Patterson (1973), and Forehand and McMahon (1981), that all emphasize the importance of training parents in behavior management techniques. For example, parents are taught how to apply reinforcement or punishment following appropriate or inappropriate behaviours (Mash & Barkley, 1998). The parents then can apply these techniques in their home to address the behavior problems associated with ADHD. All three programs have been designed to improve parental management skills.

In this paper, empirical studies published in the last 15 years that have focused on parent training programs relative to school-aged children with ADHD will be reviewed. The purpose of this paper is to evaluate the efficacy of ADHD parent training programs and to determine their effectiveness alone or combined with other types of treatment. In this regard, several important factors of the research will be considered.

One important factor to consider is the type of parent training program used in the studies. The majority of parent training programs are aimed at reducing behavioral problems in children with ADHD, through contingency management principles (Barkley, 1987; Forehand & McMahon, 1981; Patterson & Reid, 1973). However, there are other parent training programs that aim to, for example, improve social skills or problem-solving skills in children with ADHD (Blakemore, Shindler, & Conte, 1993; Sheridan & Dee, 1996). If parent-training programs are going to be used to treat children diagnosed with ADHD, then research should evaluate the effectiveness of different types of parent training programs.

Current research has indicated that parental problems, such as marital dissatisfaction, high levels of stress, and depression, are associated with higher dropout rates and poorer compliance with parent training

programs (Chronis, Chacko, Fabiana, Wymbs, & Pelham, 2004; McMahon, Forehand, Griest, & Wells, 1981). Therefore, the studies in this review will be examined to determine if measures of parental psychopathology were included and considered in the evaluation of the treatment program.

Parent training programs are to be utilized by both parents; therefore, another important factor to consider is the involvement of both parents in the parent training sessions. Father involvement in treatment is essential for the facilitation of social support within the family unit and consistency in parenting and discipline (Chronis et al., 2004). In addition, fathers tend to share the parenting responsibilities and, like mothers, struggle to control their child's behavior. Moreover, they can experience stress related to parenting a difficult child. Hence, studies will be reviewed with respect to their inclusion of fathers in the treatment program.

The setting in which parent training programs are implemented can influence treatment outcomes. According to Chronis et al. (2004), parent-training studies that are based in university clinics tend to provide treatment for families of middle to upper class. As a result, families of a lower economic status can be omitted from evaluation studies. Hence, the sample composition in these studies will be reviewed and evaluated.

It is estimated that approximately 75% of children diagnosed with ADHD are medicated with stimulant medication (Hechtman et al., 2004). Stimulant medication has been shown to have large, beneficial effects in a number of areas, including ADHD symptomatology (Abikoff et al., 2004; Hechtman et al., 2004). It can be difficult to determine if treatment outcomes are due to the parent-training program if medication use is not controlled in the research. Hence, the studies will be evaluated relative to their control of medication use by the participants.

ADHD is considered to be a chronic disorder; therefore, treatment effects for ADHD should be maintained over a long period of time. Current research has validated the effectiveness of parent training in the short term, but what about the long-term outcome of this type of treatment? The studies under review will be examined for the presence of follow-up data collected at least six months after treatment termination.

The published studies in this paper were obtained through a computerized search of PsycINFO and Psychology and Behavioral Sciences Collection. The following key words were used: behavioral treatments in ADHD, parent training, and contingency management in ADHD. Reference lists from relevant articles were also examined. The criteria used to select the studies were that participants were between the ages of 4-12, and had to have a diagnosis of ADHD by DSM IV criteria standards. Moreover, parent training had to be a method of treatment. The search yielded ten articles that met these criteria. These studies were analyzed and coded on the following variables: type of parent training program, parental psychopathological assessment, parental involvement, setting of treatment, medication usage, and follow-up analysis.

Anastopoulos, Shelton, DuPaul, and Guevremont (1993) examined changes in parental stress and self-esteem resulting from a training program for parents with children diagnosed with ADHD. The parent training program implemented in this study was designed by Barkley (1987), and consisted of nine, weekly, one-hour group sessions. The sessions were focused on teaching parents behavioral management techniques, such as positive reinforcement and punishment strategies. The participants were 36 mothers and their children (25 boys, 9 girls), who were diagnosed with ADHD. In addition, seven of these children were taking stimulant medication. The mothers were assigned to either a treatment group, in which they received the nine parent training sessions, or to a wait-list control group.

The results of this study indicated that, relative to wait-list controls, the mothers who completed the parent training program showed significant post-treatment gains. For example, they reported reduced feelings of stress and increased self-esteem. In addition, the mothers also reported less severe ADHD symptoms in their children, such as hyperactivity and noncompliance. These results were found to be maintained at a two-month follow-up, hence, the researchers concluded that parent training, based on Barkley's curriculum (1987), was effective in reducing parental stress, increasing their self-esteem, and decreasing ADHD symptoms.

In the context of this review, there are several limitations with this study. First of all, fathers of these children did not participate in the parent-training program, so no data were obtained on the success of the treatment program with respect to the fathers of ADHD children. The

outcome measures were based only on the mothers' perceptions of treatment success. In addition, even though the majority of the sample of children was not on medications, seven of the children were taking medications. Hence, the effect of medication usage on the results of the parent-training program is unclear. Moreover, the parent training sessions were conducted in a university medical clinic center, therefore, the data obtained from this study may not be generalizable to all families who may not have access to care provided in clinics. Lastly, the follow-up period for evaluating treatment success was two months after the parent training sessions ended. This does not seem long enough to make a statement about the long-term effects of parent training with ADHD, considering the fact that ADHD is a chronic disorder.

One strength of this study is that assessments of parental personal distress, marital satisfaction, psychosocial stress, and parent psychotherapy status were included. This is important to consider because these parental factors can have an effect on the treatment outcome. Moreover, it is noteworthy because not many studies include parental psychopathological factors in treatment outcome studies (Sonuga-Barke et al., 2001). However, the analysis of these parental factors yielded non-significant findings.

Erhardt and Baker (1990) conducted a case study on two families that both had sons diagnosed with ADHD. A ten-week parent training program was implemented, which was similar to that used in the previous study (based on the curriculum of Barkley's program, 1987), however, it also included components of the curriculums of Forehand and McMahon (1981), and Patterson (1973) and, as such, the format was slightly different. For example, the parent training program incorporated six, two-hour group instruction meetings in behavioral management, and four one-hour individual consultation sessions. The purpose of the individual sessions was to tailor the principles taught in the group meetings to the specific needs of each family. Changes in parent confidence, knowledge of ADHD, and child ADHD symptoms were evaluated through the mothers' self reports during both pre and post-treatment sessions. Post-treatment follow-up was conducted ten weeks after the completion of the parent training sessions.

The results from this study indicated that, following the parent training sessions, both mothers reported more confidence in their child

management abilities, and also in their knowledge of behavior modification principles and techniques. In addition, targeted child behaviour problems for both boys were reduced, such as tantrums, noncompliance, and aggression. Moreover, the mothers adopted a more appreciative view of their child's positive qualities. Therefore, the conclusions drawn from this research were that the parent training sessions were effective in reducing the child's specific behaviour problems and increasing parental knowledge and confidence for the two families involved.

In comparison with the previous study by Anastopoulos et al. (1993), both parent training programs were effective in decreasing parental stress and also increasing the mother's self-esteem and confidence. However, because the parent training programs were different in terms of length and format, it is difficult to compare the effectiveness of both types of parent training programs. For example, it is unclear if utilizing a group format as in the first study, or if adding the individual component to parent training sessions, is a significant benefit.

Methodologically, this study has several limitations. For one, the study was conducted in a clinic setting, limiting generalizations about the results to a community sample. Second, follow-up data were evaluated only in the short-term. Third, this study involved only the mothers of the children; hence, there is no information about program effectiveness for fathers of ADHD children. Lastly, in terms of the sample used in this study, both of the boys were not taking medications. Thus, it can be concluded that the findings of the study are a result of the parent training sessions, with no chance of confounding with the effect of medications on ADHD symptoms. However, the fact that this study was a case study limits the generalization of the findings.

Smith and Barrett (2000) conducted a case study through the Department of Psychology at Indiana University of Pennsylvania, involving three families who had a daughter with ADHD. Participants were recruited from a local community mental health center that served primarily rural and lower socio-economic status (SES) clients. The ten-week parent training program utilized in this study was the same type as in the Anastopoulos et al. (1993) study, based on Barkley's (1987) curriculum. The only difference was that it included an additional review session at the end of the program, referred to as a "booster" session. The mothers'

ratings of their daughters' behavior and emotional status were collected in addition to observations of the mother and child home behaviours. The results of both the observational and questionnaire data indicated marginal improvement in all three of the girls in terms of the primary symptoms of ADHD (attention, impulsiveness, hyperactivity). However, child compliance improved for two out of the three girls. Further, all three of the girls showed reductions in symptoms of anxiety and depression.

This study possesses many unique aspects, compared to the two studies reviewed up to this point. For one, the treatment measures of the studies reviewed so far have relied solely on the parents' self-reports of their child's ADHD symptoms. In measuring treatment effectiveness in this way, parents may hold a bias toward change because they have invested some time and effort in the parent training program. In contrast, this study utilizes both maternal reports and observations of home behavior to evaluate the effectiveness of this parent-training program. The results indicated congruence between the observations and the mothers' self-reports, therefore, the researchers concluded that parents accurately report changes in child behaviour. However, because this was a case study, these results only represent a small sample of girls with ADHD and, therefore, these findings are not generalizable to the broad population of children with ADHD.

This study utilized a sample recruited from the community, as opposed to a clinic setting and, as a result, it highlights some problems of conducting parent-training programs in a community setting. For example, research has shown that a high level of attrition is not uncommon when conducting research with families in the community, especially when participating families come from lower SES groups (Chronis et al., 2004). The authors of this study indicated that originally seven families were involved in the study but only three families completed the study. The other four families left the project before the first group meeting (Smith & Barrett, 2000). As a result, this study demonstrates the susceptibility to participant attrition that occurs often in community samples.

The results of this study show reduced hyperactivity symptoms in the children as a result of the parent-training program. However, no follow-up data were collected, so the effectiveness of this parent-training

program in the long term is questionable. Lastly, none of the fathers of the girls were involved in the parent training sessions.

More recently, Weinberg (1999) examined the effect of a six-week parent training program, based on Barkley's parent training curriculum, with 34 parents (nine families, sixteen mothers) of twenty-five children with ADHD (20 boys, 5 girls). The parent training program consisted of six, weekly, 90-minute group sessions. It is important to note that the entire ADHD sample used in this study was taking stimulant medications to manage their ADHD symptoms. Follow-up data, based on the parents' self-reports were obtained immediately after the parent training sessions. These data indicated significant improvement in parents' knowledge and understanding of ADHD and of behavior management skills. Additionally, a mild stress reduction was found as a result of the parent training sessions. However, no behavioral improvement in these ADHD children was found at the completion of the parent training program, as defined by a reduction in problem behaviours in the home.

This study did not include parental psychopathological measures, and was conducted in a clinic setting. Also, follow-up data were obtained immediately after treatment; therefore, no conclusions can be made about the long-term effectiveness of the parent-training program. However, what is interesting about this study is that nine fathers were involved in the parent-training program, in addition to the 25 mothers. However, no additional analysis was conducted on the fathers' self-reports that provides greater insight than the other studies. Another limitation of this study was that all of the ADHD children were taking stimulant medication, so the effect of medications could not be separated from the effect of parent training with respect to the treatment outcomes.

All of the studies in this review have used parent-training programs that are by and large based on the curriculum of Barkley (1987), Forhand and McMahon (1981) or Patterson (1973). Moreover, except for Weinberg's (1999) study, the parent training programs have shown to be effective in reducing ADHD symptoms, such as hyperactivity, impulsivity, and other problem behaviours associated with ADHD, in the short-term. However, conclusions about treatment effectiveness across these studies have been confounded due to the lack of adequate follow-up evaluation and because many of the ADHD children were taking medications while the effectiveness of the parent training programs were being evaluated.

A study conducted by Horn et al. (1990) assessed the separate and combined effects of a behavioral parent training program and cognitive-behavioral self-control therapy with 42 elementary school-aged children diagnosed with ADHD. The parent training program was twelve weeks in duration, and was based on the curriculums of Barkley (1987), Forehand and McMahon (1981), and Patterson (1973). For example, topics included effective behavioral management techniques, such as positive reinforcement, punishment, compliance training, and contingency contracting. In contrast, self-control therapy involved teaching self-control strategies to children with ADHD to control their behaviour. It was hypothesized that combining these two treatments would decrease behavioral problems at home. Participants were randomly assigned to the parent training program, self-control therapy, or a combination of the two treatments, and were administered the treatment measures immediately after treatment, and again at an eighth-month follow-up period.

The results of this study indicated that the combined treatment of parent training and self-control therapy produced significantly more reductions in behavioral problems at home than any of the single-modality treatments, in terms of the parent reports of behavioral problems in the home. In addition, improvements in problem behaviours at school were found, based on teacher ratings of classroom behaviours. Therefore, initially it appeared that the treatment effects of combining the parent training program with the self-control therapy were generalizable to school behaviours. However, at follow-up, eight months after the parent training program, those improvements in school behaviour were not found to be maintained. In contrast, the improvements in home problem behaviours were maintained.

In this study, no parental psychopathological data were collected, and the parent-training program was implemented in a clinic setting. However, unlike the other studies, this study investigated the effectiveness of parent training when combined with another therapy. The results of this study demonstrate the importance of investigating the treatment effects of parent training programs in the long-term. Importantly, both mothers and fathers were asked to participate in the parent training groups. However, fathers proved considerably less willing than mothers to participate in the groups or to comply with a

request to complete the assessment instruments, hence, complete data were collected on only 25% of fathers. As a result, the data obtained from the fathers were not included in analysis.

The Multimodal Treatment Study (1999) of Children with ADHD was conducted by the MTA Cooperative Group, which consisted of six independent research teams from North America. These included: Berkeley University, University of California, Duke University, Long Island Jewish Medical Center, New York State Psychiatric Institute, and the University of Pittsburgh. The overall purpose of this study was to determine the most efficacious treatment for ADHD children. This was a very large-scale study, involving a large sample of 579 ADHD children. These children were randomly assigned to one of four treatment groups; medication alone, intensive behavioral treatment (parent training included), the two combined, and community care only. The community care treatment condition was considered the control condition, where participants received none of the treatments, but were provided with a report of their initial study assessments, along with a list of community mental health resources. The parent training program used in this study was based on the curriculums of Barkley (1987), and Forehand and McMahon (1981). It was an extended version, involving 27 weekly group sessions, and eight individual sessions. Treatment outcomes were assessed before, during, and at the end of treatment.

The results of this large-scale study indicated that all four treatment groups showed marked reductions in ADHD symptoms over time, as reflected in the parents' ratings of inattention and in the teachers' ratings of hyperactive, impulsive, oppositional and aggressive behaviours. However, this effect was more pronounced in the combined treatment condition in the follow-up period of 14 months than for all of the other treatment conditions. In addition, those participants in the combined treatment condition, and the behavioral treatment condition, which included parent training, showed improvements in social skills and parent-child relations, such as reductions in parent-child arguing.

Looking at this study within the framework of the current review, some elements were missing. There were no measures of parental psychopathology included, nor was there mention of the number of fathers involved in the parent training program. In addition, the study was conducted in a clinic setting. However, this study provides further

support for the parent training, based on the curriculum of Barkley (1987), Patterson and Reid (1973), or Forehand and McMahon (1981), particularly with respect to its ability to sustain positive effects.

In a separate article by the MTA Cooperative Group (2004), the data from the MTA study (1999) were re-examined 24 months after this first analysis. This article comments on the same study as described above (MTA, 1999) and, as such, utilizes the same sample, hence, it is subject to the same limitations as stated previously. However, it is worth including in this review because the re-analysis of the data sheds some light on the effectiveness of parent training in the long term, and beyond the 14-month period. The results of this re-analysis confirmed that at a 24-month follow-up, the treatment effect size was reduced by half compared to the 14-month period (MTA, 1999). Therefore, this finding demonstrates that all treatments showed diminished effects on the behavioral symptoms of ADHD over a longer period of time. Nevertheless, this study provides further insight into the long-term effects of parent training on ADHD. For example, a closer examination of the results indicated that, when parents were asked to rate their satisfaction with treatment, they overwhelmingly endorsed the treatment conditions that included behavioral parent training. This finding is important because, if parents are satisfied with the treatment, they will be more likely to continue to invest time into it, and support it.

Parent training programs that focus on social and problem-solving skills.

A study conducted by Sonuga-Barke et al. (2001) evaluated two different parent-based therapies for young children with ADHD in a community sample of 78 children; parent training and parent counselling and support. The parent training program used in this study was developed by several of the authors of this study (Weeks, Thompson, & Laver-Bradbury, 1999). It is an 8-week program that focuses on discussing and building an understanding of ADHD, and also in addressing the feelings and issues related to ADHD. The participants were asked to keep a journal, and the therapist offered suggestions on how to manage their child's behaviour. In contrast, those participants assigned to the parent counselling and support condition received no training in behavioral strategies. However, concerns of the parents were discussed with a therapist.

The participants were randomly assigned to either the parent training condition, the parent counselling and support condition, or a wait-list control group. It is important to note that all the eight sessions were carried out on a one-to-one basis in the participants' home and that, in most sessions, both the mother and the child diagnosed with ADHD were involved. The measures of child symptoms and mother's well being were taken before and after treatment, and at a 15 week follow-up period. It was found that ADHD symptoms were reduced, and the mother's sense of well being was increased in the group that received parent training, as compared to the two other treatment conditions. The researchers concluded that the constructive training in parent strategies is an important element, when comparing it to the support only condition.

There are several strengths to this study. For one, none of the 78 ADHD participants were taking medications. Thus, it can be concluded that the findings of the study are a result of treatment. Secondly, this study included parental psychopathology measures, such as the General Health Questionnaire (GHQ), that assesses disturbed mood. However, no analysis was done to determine the effect of parental disturbed mood on treatment outcome. Most importantly, the parent-training program used in this study was conducted in the community. Follow-up data were collected at 15 weeks after treatment, so no long-term data on the effectiveness of this type of parent training program are available. Nor were the fathers of these children involved in the program. Therefore, the effect of this type of parent training program on fathers was not obtained.

Sheridan and Dee (1996) conducted a case study involving five boys with ADHD, who were all taking stimulant medications to manage their ADHD symptoms. The parents attended a ten-session training program developed by the authors that taught the parents ways to help their children deal with social problems. It was developed by the authors of this study and the objectives of this parent training program were to train parents on how to interact and converse with their child in a supportive and non-threatening manner (debriefing), guide and support their child's effort to resolve his social difficulties (problem-solving), assist their child in establishing social goals for himself (goal setting), and help their child generalize skills learned in the children's group to actual social situations. The five boys also attended ten sessions focusing

on social skills and problem-solving skills. Data were collected on the mothers of these boys, because of the inconsistent attendance of the fathers to the training program. The researchers found that all five boys demonstrated significant improvements in problem-solving abilities and in maintaining interactions with peers. In addition, it was found that the parents' skills in debriefing, problem solving, and goal setting improved significantly.

In this case study, no parental psychopathology measures were used, and the parent training programs were implemented in a clinic setting. Secondly, the data obtained from the fathers that did participate in the study were not included in the analysis. Lastly, all of the boys were on stimulant medications, and the treatment effectiveness was evaluated immediately after treatment, hence, no long-term data were collected. However, this study demonstrates that social skill training and its effects can be maintained.

A study by Blakemore et al. (1993) used between-subjects experimental design to evaluate the efficacy of a 12-session parent-training program implemented in a clinic setting. The parent-training program used in this study was designed by the authors, and included instruction in behavioral techniques and in anger management, communication skills, and problem-solving skills. The first six weeks of the program were primarily oriented towards establishing a strong foundation for implementing behaviour management procedures. The last six weeks of the program were more affectively based, and included instruction in listening skills, acknowledging feelings, anger management techniques, and how to foster a child's self-esteem. The participants were 24 families including both mothers and fathers, with a child diagnosed with ADHD. Three treatment groups were created: Group treatment, in which the participants received the parent training program in a group, individual treatment, in which the parents of one ADHD child met with a therapist on an individual-basis, or a wait-list control group.

The results of this study indicated that parents, in either parent training condition, reported reduced stress, improved perceptions of their child, and improved problem-solving skills in behavior management situations at the three-month and six-month follow-up evaluation after the parent training sessions ended. However, it was also found that these treatment effects appeared to be stronger for those participants in the individual

parent training group, as compared to those who were in the group parent training condition. Therefore, the results of this study demonstrate that the format of parent training programs, whether delivered on an individual-basis or in a group format, has an effect on treatment outcomes, with those in the individual condition benefiting more. This is the only study in this review that has compared different formats of delivering parent-training programs. Moreover, this is the only study that compares the mother's responses with the father's responses with respect to the training program. The results of this comparison indicated that, in terms of parental perception of stress, fathers in the group parent training condition reported a more significant reduction in their stress level than those fathers in the individual parent training condition. For the mothers that participated in this study, the opposite treatment effect was found. The mothers in the individual parent training condition reported a more significant reduction in their stress level than those mothers in the group parent training condition. Additionally, the reduced stress levels reported by the fathers in both the group and individual parent training conditions were not maintained at the six-month follow-up period. In contrast, this treatment effect was maintained for the mothers. Lastly, the mothers reported significant declines in the frequency of problem behaviours for both individual and group treatment relative to controls, with a stronger effect for individual treatment. In contrast, fathers reported a significant decline in the frequency of problem behaviours only for the individual treatment condition, and not for the group parent training condition. Therefore, the data from this study suggest that there appear to be differences between how mothers and fathers respond to parent training. In particular, the treatment effects were not as strong or did not last as long for the fathers in this study as they did for mothers.

It is noteworthy that treatment outcome was evaluated at three months, and also at six months after the parent training program ended. Unlike the majority of studies reviewed, this study considered both the short-term and the long-term evaluation of its treatment effects. It is especially important to consider the long-term effectiveness of ADHD treatment, because of the chronic nature of the disorder. In terms of limitations, this study did not include measures of parental psychopathology; therefore, the effect of parental psychopathology on the treatment outcome was not considered. In addition, this study was conducted in a clinic setting and,

as a result, this limits generalizations about the results to a community sample.

In conclusion, parent-training programs appear to be successful in treating the primary symptoms of ADHD in school-aged children. Across all of the studies, the parent training programs seemed to be able to increase parental confidence in their management abilities and increase their self-esteem. Coincidentally, it also appears that they were able to reduce parents' stress, as well as lead to a reduction of ADHD symptoms and child noncompliance. This review points out the need for future research to include both fathers and mothers in the treatment program and to continue to investigate possible differential effects of the parent-training program. Additionally, research designs should focus more attention on possible parental problems and their influence on treatment effects. Moreover, equal attention should be placed on the evaluation of parent training programs within clinical and community settings. Lastly, the sustainability of treatment effects should be evaluated well after the conclusion of the study.

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