



Effects of Continued Parent Interventions Following a Summer Treatment Program for Children with ADHD

Erika K. Coles, William E. Pelham, Jr., Gregory A. Fabiano, Greta M. Massetti, Martin T. Hoffman, Lisa Burrows-MacLean, Elizabeth M. Gnagy, SUNY Buffalo



INTRODUCTION

- The empirical literature supports the effectiveness of three treatments for ADHD; (1) behavior modification, (2) stimulant medication, and (3) the combination of behavior modification and stimulant medication (Pelham & Murphy, 1986; Pelham, Wheeler, & Chronis, 1998).
- The Summer Treatment Program (STP, Pelham, Greiner, & Gnagy, 1997; Pelham & Hoza, 1996) is a behavioral treatment program in which evidence-based treatment for ADHD are implemented across recreational and academic settings.
- Participants in the STP have been shown to benefit from the behavior treatment (Pelham, Fabiano, Gnagy, Greiner, & Hoza, in press; Pelham et al., 2000).
- In addition to the child-focused treatment components of the STP, parents receive 11 sessions of parent training throughout the course of the summer.
- There have been no studies to date that have investigated the maintenance of parent training in the subsequent school year following the STP.
- Based on the recent American Academy of Pediatrics treatment guidelines (2001), which conceptualize ADHD as a chronic disorder and require models of treatment to be chronic, such studies are sorely needed.
- A unique aspect of the current study is that, unlike some recent, prominent studies (e.g., MTA Cooperative Group, 1999), treatment begins with behavior modification first, and need for medication is added only when needed.
- Given the chronic nature of ADHD, continued treatment has been recommended by the American Academy of Pediatrics (2001).

PARTICIPANTS AND SETTING

To investigate the effectiveness of two approaches to follow-up treatment following the STP (Pelham et al., in press; Pelham, Greiner, & Gnagy, 1997; Pelham & Hoza, 1996), thirty-nine participants in the STP 2002 (Coles et al., 2003; Fabiano et al., 2003; Pelham et al., 2003; Burrows-MacLean et al., 2003) were randomly assigned to one of two groups immediately after the summer for follow-up treatment (nine eligible participants did not enroll because the parents were unwilling to start the school year without medication. All of these 9 subjects had been medicated prior to the STP). Participants did not differ from non-participants on measures of ADHD symptoms or IQ, but non-participants were significantly older than participants ($p < .05$).

PROCEDURES

- Children could be assigned to a behavior modification consultation group (BMC) or a no behavior modification consultation (NBMC) group.
- For those in the BMC group, teachers received three behavior modification consultation visits at the beginning of the school year aimed to improve existing classroom behavior modification programs and to institute a daily report card. Parents also received monthly group booster parent training meetings (all parents in the follow-up had received 12 sessions of parent training classes during the summer). Both teachers and parents received three additional individual meetings if behavior ratings indicated impairment or as otherwise needed. The modal number of additional parent and teacher visits was 1 with a range of 0-3 for teachers and 1-3 for parents.
- Participants in the NBMC group received no additional consultation from the study staff.
- Teachers and parents in both groups completed weekly ratings of ADHD symptoms and impairment.
- If ratings indicated the need for additional treatment or special services for two weeks in a row, and teachers and parents agreed that medication was indicated, a double-blind, placebo-controlled, school-based medication assessment (Pelham, 1993) was conducted to select the optimal dose and children subsequently began a medication regimen.
- Medication was introduced in a step-wise manner. That is, medication was introduced in the school first. Only after a medication regimen was established in school could a medication trial be initiated in the home.

MEASURES

Primary Outcome Measure

Latency to Medication Use: The primary goals of this study were to investigate the effectiveness of continuing behavior modification to maintain gains obtained in the STP and also determine whether behavior modification follow-up affected the need for medication. Thus, the number of weeks the child was unmedicated at home is the primary outcome measure.

Secondary Measures

Each week, the child's parent and teacher completed the IOWA Conners Rating Scale (Loney & Milich, 1982; Pelham, Milich, Murphy, & Murphy, 1989) and a modified version of the impairment rating scale (Fabiano et al., under review). These measures were used to track the child's behavior throughout the school year, and implement additional behavioral or pharmacological treatments as necessary.

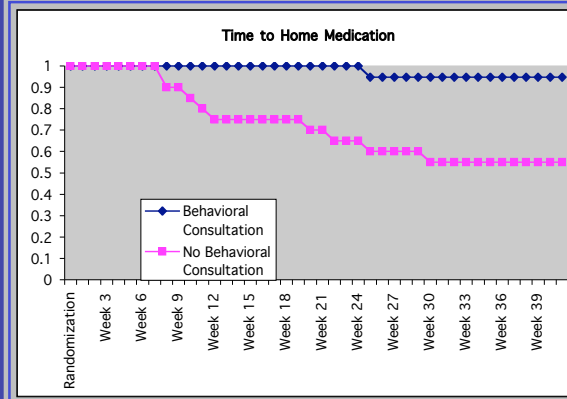


Figure 1.

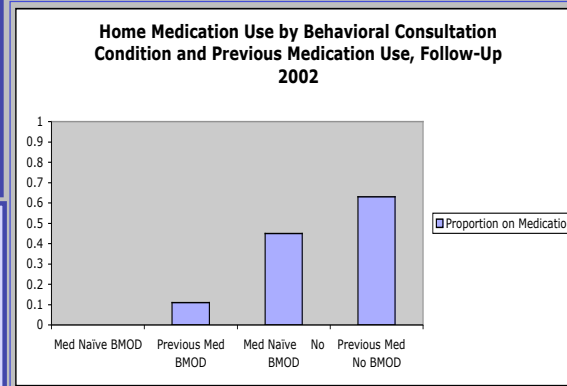


Figure 2.

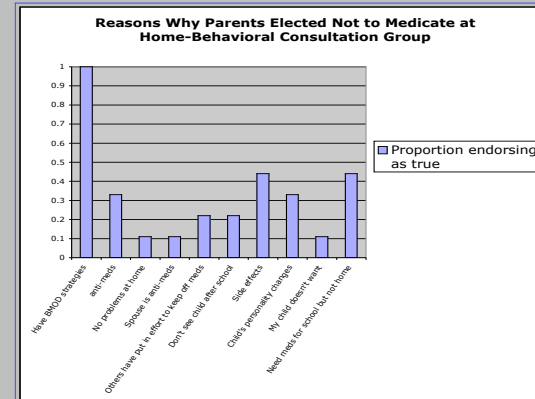


Figure 3.

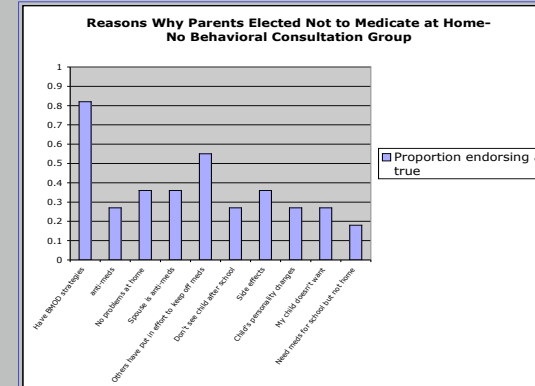


Figure 4.

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Results

- Results for the school-based procedures is presented in Fabiano et al. (2003)-Sat. 3:30 poster session
- To investigate the latency to medication use between the two groups, a Kaplan-Meier survival analysis was conducted. Some children withdrew from the study and began medication, even though their teacher/parent ratings did not indicate impairment. In these cases, the date of medication initiation was entered into the survival curve. The Breslow statistic (1) = 9.80, $p < .0017$ was significant. The survival curve is displayed graphically in figure 1.
- A hypothesized moderator of treatment outcome was prior stimulant medication use. That is, children who were previously medicated at home would be more likely to have medication initiated at home during the school year. The percentage of medication naïve children in the BMOD and No BMOD groups who began stimulant medication during the study, and the percentage of children in the BMOD and No BMOD groups who were not medication naïve are presented graphically in figure 2.
- At the end of the school year, only 5% of the BMC group, compared to 47% of the NBMC group, received medication in the home setting.
- Parents attended an average of 60% of the booster group parent training sessions.
- Parents use of individual parent training sessions ranged from 0 individual sessions to 3 individual sessions. The modal number of individual sessions was 1.
- Approximately 60% of the children randomized to the NBMC who had been previously medicated (8/39) elected to receive medication in the home setting
- 0% (8/39) of the parents of the children randomized to the BMC group who were med naïve elected to receive home medication
- 100% of the parents in the BMC group stated that they did not medicate at home because of the strategies that they had learned strategies to deal with their child (Figure 3).
- As shown in Figure 4, even parents of children assigned to the NBMC group felt they had learned strategies (through the 11 sessions of parent training that they received through participation in the STP) that allowed them to deal with their children at home.

Discussion

- Children in the group that included continued behavior modification treatment needed, on average, a lower daily total dose of medication than the group that did not receive continued treatment because they were not medicated at home.
- Parents of children in both conditions recognized that problems continued to exist in the home setting, yet parents who received continual behavioral treatment consultation were less likely to medicate in the home.
- There are important clinical implications to the results of the cross-over to medication. Specifically, parents who have had previous experience with using stimulant medication were more likely to return to using medication, regardless of behavioral condition the child was randomized to.
- While parents are willing to medicate a child for the school day, parents are much less likely to desire and/or use medication after school in the evening – in stark contrast to the current recommendation in the field to medicate using l.i.d. dosing (MTA Cooperative Group, 1999).