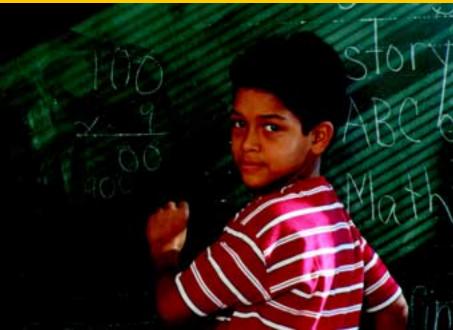
From the Clinician

Maximizing the Benefits of Stimulant Medication Treatment for Children with AD/HD - Part 1

by David Rabiner, Ph.D.

WHEN A CHILD IS DIAGNOSED WITH AD/HD, an important decision that parents face is whether to include medication as part of their child's overall treatment plan. Although many factors are involved in this decision, medication treatment is frequently recommended because it currently has the most substantial research support as an effective treatment for AD/HD. By 1996, 161 randomized controlled trials involving thousands of individuals with AD/HD across a wide age range had been published, and improvements were reported to occur in between 65 and 75 percent of those receiving stimulant medication. 1 Although many of these studies lasted fewer than 12 weeks, results from the Multimodal Treatment Study of AD/HD² (MTA study) indicated that benefits of carefully conducted medication treatment were sustained over the 14-month period that the children were followed.

Despite the well-documented benefits of medication treatment, results from carefully conducted research may overestimate the value typically provided to children treated in community settings. In the MTA study, children receiving medication treatment through the study—whether alone or in combination with intensive behavioral therapy—experienced greater reductions in AD/HD symptoms than children treated with medication by community physicians. For example, 68 percent of children receiving combined treatment (i.e., medication and behavior therapy) and 56 percent of children receiving medication treatment alone had ratings that fell within the normal range for AD/HD and ODD (oppositional defiant disorder) symptoms after 14 months. In contrast, only 25 percent of communitytreated children-two-thirds of whom received medication—showed normalized



levels of symptoms.³ Approximately 90 percent of children receiving medication in the MTA study no longer met full diagnostic criteria for AD/HD.4 [This does not include the community-based control group treated with medication.] Results from a recent study of children with AD/HD treated with medication by community physicians, however, found that almost 40 percent continued to meet full AD/HD diagnostic criteria.⁵ Finally, in another recent report, there was no indication that communitybased treatment improved the educational outcomes for children with AD/HD.6

A reasonable conclusion to draw from this evidence is that many children with AD/HD who are treated with medication fail to benefit to the extent possible. Understanding why children treated in research studies often do better than children receiving the same medication in the community is very important. This knowledge can help parents maximize the benefits of medication treatment for their child should the decision to try medication as part of a comprehensive treatment plan be made in consultation with their child's healthcare provider.

Lessons from the MTA Study

How can the benefits provided by medication treatment be maximized? An examination of medication treatment procedures used in the MTA study provides valuable information on this question. Key elements of these procedures, and how they are likely to differ from typical practice are highlighted below.

 Children were tested initially on three different doses of stimulant medication and a placebo. Parents and teachers completed standardized ratings of children's behavior and side effects on the different doses to help ensure that medication provided a significant benefit (i.e., the child did better on medication than on placebo) and to determine the optimal starting dose for each child. Systematic monitoring of children's response to a full range of doses, although recommended in the treatment guidelines recently

Understanding why children treated in research studies often do better than children receiving the same medication from community physicians is very important.

published by the American Academy of Pediatrics, may often be neglected in the community practice setting. As a result, many children are likely to start treatment on a non-optimal dose.

Starting children on the lowest possible dose is reasonable as long as one is prepared to go up systematically to achieve an optimal response. Dose increases can be made every week or less, and parents should understand that sequential dose increases are needed to determine the optimal dose for their child. Sometimes this requires that the child briefly receive more than is optimal. Frequent systematic parent and teacher feedback regarding the child's response is also essential in determining the optimal dose.

- When the initial stimulant was not effective, rather than giving up on stimulant medication, testing was continued using other medications. Although a small number of children required non-stimulant medication, and some did not benefit from any medication, an effective medication was eventually found for the vast majority of children. In community settings, it may be more common for medication to be discontinued if initial results are not positive, or to switch to another class of medication (e.g., anti-depressants) before trying other stimulants.
- Once an effective medication was found, MTA-treated children (who had AD/HDcombined type) received three doses per day to provide full day coverage. [Children who suffer from primarily inattentive AD/HD may not require the same type of 12-hour therapy.]

Children treated in the community with medication received an average of two doses per day, and, on average, received a smaller total daily dose. Because studytreated children experienced greater reductions in AD/HD symptoms, children receiving medication treatment in community settings may often be maintained on dosing regimens that are not sufficient. (Note: The initial stimulant used in the MTA study was methylphenidate, the generic form of Ritalin. Since the MTA study was conducted, several longer acting stimulants have become available, e.g., Concerta, Adderall-XR, Metadate CD, Ritalin-LA. These medications may be preferable in many instances because they eliminate the need for administration during the school day, which often poses a variety of problems.)

 Once the initial medication and starting dose were determined, ongoing treatment effectiveness was monitored via monthly follow up visits and phone contacts with children's teachers. In community settings, ongoing treatment monitoring is typically far less intensive.

Translating these Lessons into Practice

Although there were other differences between study- and community-treated children, those discussed above certainly seem to be among the most important. Because the procedures used in the MTA study resulted in better child outcomes, it is important that parents try to ensure that their child's treatment is consistent with these procedures. Although the specifics of some MTA medication treatment procedures would be difficult to replicate exactly in community settings (e.g., the initial placebo-controlled trial involving daily dose changes and daily teacher and parent behavior ratings), the principles underlying these procedures are not.

In the April issue of *Attention!*®, we'll look at several specific guidelines recently published by the American Academy of Pediatrics, the American Academy of Child and Adolescent Psychiatry and the Texas Consensus Conference Panel on how to obtain the maximum benefit from stimulant medications as part of a multimodal treatment program for children with AD/HD. ■

David Rabiner, Ph.D,. is a child psychologist and senior research scholar in the Center for Child and Family Policy at Duke University, and a member of CHADD's Professional Advisory Board.

References

- ¹ American Academy of Child and Adolescent Psychiatry (2002). Practice parameter for the use of stimulant medications in the treatment of children, adolescents, and adults. Journal of the American Academy of Child and Adolescent Psychiatry, 41(2)S, 26S-
- ² MTA Cooperative Group (1999). A 14-month randomized clinical trial of treatment strategies for attention deficit/hyperactivity disorder. Archives of General Psychiatry, 56, 1073-1086.
- ³ Swanson, J.M. et al. (2001). Clinical relevance of the primary findings of the MTA: Success rates based on severity of ADHD and ODD symptoms at the end of treatment. Journal of the American Academy of Child and Adolescent Psychiatry, 40:2, 168-179.
- ⁴ Jensen, P.S. et al. (2001). Findings from the NIMH multimodal treatment study of ADHD (MTS): Implications and applications for primary care providers. Journal of Developmental and Behavioral Pediatrics, 22, 60-73.
- ⁵ Rowland, A.S., Umbach, D.M., Catoe, K.E., Stallone, L., Long, S., Rabiner, D.L., Naftel, A.J., Panke, D., Faulk, R., & Sandler, D. (2001). Studying the epidemiology of Attention-deficit/Hyperactivity disorder: Screening method and pilot results. Canadian Journal of Psychiatry, 46, 931-940.
- ⁶ LeFever, G.B. et al. (2001). Parental perceptions of adverse educational outcomes among children diagnosed and treated for ADHD: A call for improved school/provider collaboration. Psychology in the Schools, 39, 63-71.
- ⁷ American Academy of Pediatrics (2001). Clinical practice guidelines: Treatment of the school-aged child with attention-deficit/hyperactivity disorder. Pediatrics, 108, 1033-1044.