

## ATTENTION DEFICIT AND LEARNING DISORDERS

### **PARENT TRAINING MANAGEMENT OF PRESCHOOL ADHD**

Parent training (PT) and parent counseling and support (PC&S) techniques were compared in the management of a community sample of preschool 3-year-old children with attention-deficit/hyperactivity disorder (ADHD) followed in the Department of Psychology, University of Southampton, UK. Of 78 children with a preschool equivalent of ADHD, 30 were randomly assigned to the PT group, 28 to the PC&S group, and 20 to a "waiting-list" control (WLC) untreated group. The core symptoms of preschool ADHD and conduct/oppositional disorders were assessed and scored in a structured interview - PACS (Parental Account of Childhood Symptoms) (Taylor E et al. *The Epidemiology of Childhood Hyperactivity*, Oxford, Oxford Univ Press, 1991). A group of non-ADHD controls were selected at random from those whose PACS scores fell below the cutoffs for inclusion in the study. The mean PACS scores for ADHD children and non-ADHD controls were 20.94 and 13.25, respectively ( $P=.0001$ ). A PACS score lower than 15.65 was the criterion for "recovery" after treatment intervention. An "observation" measure during 10-minutes of solo-child play with a multipurpose toy ("Fun-Park") was also employed. PT involved advice and coaching of mothers on behavioral strategies to modify behavior and establish positive family relationships (eg: importance of praise, clear messages, routine, boundaries, and limit-setting; use of a behavioral diary; avoidance of confrontation and threats; concepts of time out and quiet time). PC&S was a nondirective support and counseling session without training in specific behavioral strategies. Maternal well-being and parental sense of competence were assessed by validated questionnaires. All measures were taken before (T1) and on completion of intervention at eight 1-hour weekly visits to the client's home by one of two trained health visitor therapists (T2). Measures were repeated during week 23 (T3) at follow-up. WLC children received no treatment for the 23 weeks, and no child had contact with therapists between T2 and T3. None received psychostimulant medication at any time.

Children with ADHD differed significantly from non-ADHD controls on all measures. In children with ADHD, 53% of the PT group showed clinical improvement, compared to 38% of PC&S, and 25% of WLC groups. Only PT produced significant levels of improvement ( $p=.048$ ). Analysed separately, both interview and direct observation measures showed significant PT benefits ( $p<.001$  and  $p<.05$ , respectively). PT also benefited conduct problems ( $p=.029$ ). Scores for PC&S did not differ from those in WLC groups ( $p=.6$ ). Maternal adjustment measures also showed significant improvements with PT relative to PC&S and WLC groups. (Sonuga-Barke EJS, Daley D, Thompson M, Laver-Bradbury C, Weeks A. Parent-based therapies for preschool attention-deficit/hyperactivity disorder: a randomized, controlled trial with a community sample. *J Am Acad Child Adolesc Psychiatry* April 2001;40:402-408). (Dr Sonuga-Barke, Department of Psychology, University of Southampton, SO17 1BJ, England).

**COMMENT.** Maternal parent training and coaching on child-management techniques can be a valuable intervention for preschool children with ADHD whose age is a limiting factor for use of psychostimulant medication. Methylphenidate is not usually recommended nor approved for treatment of children less than 5 years of age, except in carefully monitored experimental studies. Controlled studies of the benefits and adverse effects of stimulant medications in this age group are incomplete.

Parent training techniques may provide a welcome alternative to drugs, especially in preschool children and for professionals and parents who have

ethical objections to the "medicalization" of behavior and learning. (Millichap JG. Attention Deficit Hyperactivity and Learning Disorders. Chicago, PNB Publishers, 2001, p9). For parent training to be effective, the coaching must be specific and constructive regarding behavioral management techniques. A nondirect method of parent counseling and support, without training in behavioral strategies, is largely ineffective. The completion of a weekly behavior diary by the parent is an essential adjunct to regular reviews of results of intervention and identification of problems.

In the recent NIMH Collaborative Multisite Multimodal Treatment Study (MTS) of grade school children with ADHD, intensive psychosocial intervention alone was much less effective than psychostimulant medication and no more effective than routine community-based care. In combination with medication, psychosocial intervention was only slightly additive in benefit (Jensen PS et al. Arch Gen Psychiatry 1999;56:1073-1086; see Ped Neur Briefs Jan 2000;14:3-4). Parent training techniques are time consuming, requiring frequent follow-up and reinforcement. The practical disadvantages of PT compared to medical treatment would need to be addressed, for this form of intervention to be generally successful. For children under 5 years of age, when treatment with stimulant medication is not appropriate, a trial of PT is especially indicated.

In the UK where the above study was conducted, the recognition and treatment of ADHD with medication is not as readily accepted as in the US (Taylor E. Arch Gen Psychiatry 1999;56:1097-1099). Many UK parents will opt for no therapy or for behavioral training, despite the obvious superior benefits of methylphenidate demonstrated in the MTS study.

## CEREBRAL GRAY MATTER VOLUME REDUCTIONS IN DYSLIXICS

Brain MR images were compared in 16 right-handed men (mean age, 24 years; range 18 to 40) with dyslexia and 14 control subjects using a voxel-based analysis, at Stanford University School of Medicine, CA. Evidence of decreases in gray matter in dyslexics was most notable in the left temporal lobe, especially the left posterior superior temporal gyrus (STG), the temporoparietooccipital juncture bilaterally, and the frontal lobe, caudate, thalamus, and cerebellum. Morphological variations in brain structure affecting several brain regions may explain the neuroanatomical basis of dyslexia. (Brown WE, Eliez S, Menon V et al. Preliminary evidence of widespread morphological variations of the brain in dyslexia. Neurology March (2 of 2) 2001;56:781-783). (Reprints: Dr AL Reiss, Department of Psychiatry and Behavioral Sciences, Stanford University School of Medicine, 401 Quarry Rd, Stanford, CA 94305).

COMMENT. This study confirms previous MR evidence of decreases in the left temporal lobe volume in dyslexic subjects, and further localizes the deficit to the STG and left inferior, middle, and mesial temporal regions. The decreases are global in distribution and affect subcortical as well as cortical gray matter and also, the cerebellum.

In a Yale University study (Schultz RT et al. Ann Neurol 1994;35:732-742), the influence of age, sex and overall brain size on the measurement of MRI brain volume changes in dyslexia was stressed. Analyses that controlled for these variables failed to confirm smaller left hemisphere structures previously reported in dyslexia. Studies involving changes in the corpus callosum are reported from other centers. (see Progress in Pediatric Neurology III, PNB Publ, 1997;pp269-270; and Ped Neur Briefs Jan 2001;15:1; for further comment on the neurological basis of developmental dyslexia).