

DSM-III-R criteria. Children with ADHD-CT had the highest rate of comorbid conditions, 55% having ODD, 29% CD, and 29% ANX/DEP. ADHD-AD was associated with much lower rates of ODD and CD than other subtypes. Anxiety or depression rates were highest for ADHD-CT types and lowest with ADHD-HI. Behavioral problems predominate in ADHD-HI types and academic problems predominate in ADHD-AD. The use of DSM-IV in place of DSM-III-R criteria increased the prevalence of the diagnosis of ADHD in this community, and the new subtypes better characterized the heterogeneity of the disorder. (Wolraich ML et al. Comparison of diagnostic criteria for attention-deficit hyperactivity disorder in a county-wide sample. J Am Acad Child Adolesc Psychiatry March 1996;35:319-324). (Reprints:Dr Wolraich, Vanderbilt Child Development Center, 2100 Pierce Avenue, Nashville, TN 37232).

COMMENT. The new diagnostic criteria in DSM-IV which include two new subtypes are likely to increase the prevalence of ADHD when compared to DSM-III-R criteria. The ADHD inattentive subtype (AD) is characteristic of children with predominant academic problems and fewer behavioral complaints, and it occurs more frequently in females than do other subtypes. ADHD hyperactive-impulsive type (HI) is characterized by behavioral problems, with fewer academic problems, and a low rate of anxiety or depression. ADHD combined type (CT) criteria are close to the the original DSM-III ADD with hyperactivity.

Validity of DSM-IV ADHD subtype diagnoses in relation to previous DSM III and DSM-III-R diagnoses. ADHD-AD and ADHD-CT diagnoses corresponded with DSM-III ADD/WO and ADD/H diagnoses, respectively, in a study at the University of Georgia, Athens, GA. (Morgan AE et al. J Am Acad Child Adolesc Psychiatry March 1996;35:325-333). For the ADHD-AD, predominantly inattentive type, diagnosis the child must have 6 of 9 inattentive symptoms but less than the specified number of HI symptoms.

These frequent and sometimes premature modifications of the DSM criteria for diagnosis of ADHD are certainly leading to confusion and have prompted a rash of articles and studies attempting to clarify the dilemma.

## RISK FACTORS FOR ADHD PERSISTENCE INTO ADOLESCENCE

Predictors of persistence and the timing of remission of ADHD at a 4-year follow-up of 128 patients were studied prospectively using DSM-III-R criteria at the Massachusetts General Hospital, Boston. The diagnosis of ADHD had persisted in 109 (85%) and had remitted in 19 (15%). Of those no longer meeting the diagnostic criteria, 9 (47%) were late remitters (after age 12 years), and 10 (53%) were early remitters (by age 12 years). Risk factors for persistence included: 1) *genetic* familiarity of ADHD, 2) *environmental* psychosocial adversity and exposure to parental conflict, and 3) comorbidity with conduct, mood, and anxiety disorders. (Biederman J et al. Predictors of persistence and remission of ADHD into adolescence: results from a four-year prospective follow-up study. J Am Acad Child Adolesc Psychiatry March 1996;35:343-351). (Reprints: Dr Biederman, Pediatric Psychopharmacology Unit, Massachusetts General Hospital, ACC 725, 15 Parkman Street, Boston, MA 02114).

COMMENT. The majority of children diagnosed with ADHD in childhood will continue to be affected after 12 years of age, into adolescence, and sometimes into adulthood. The frequently repeated prediction that a child will outgrow ADHD by 12 years of age is no longer tenable. These authors also found that the intensity of treatment of ADHD did not alter the incidence of

persistence or remission. The prognosis for ADHD seems to be bleaker than previously perceived. By using stimulant medication, special education, and counselling during early grade school years, the improvements in attentiveness and behavior are expected to result in better study habits and academic achievement. To assure continued success in high school and also, in college, ADHD appears to require persistent medical attention. Treatment should also be directed more aggressively toward lessening the influence of environmental and familial adverse factors, which appear to be important in persistence of ADHD. Parents are often oblivious or in denial of their role in the etiology of a child's attention deficits and behavior problems. Family counselling, often neglected as part of the multimodal therapy for ADHD, should receive greater emphasis.

**Psychiatric and developmental disorders in families of children with ADHD** were studied in the Department of Pediatrics, Wyler and La Rabida Children's Hospitals, University of Chicago. (Roizen NJ et al. Arch Pediatr Adolesc Med Feb 1996;150:203-208). Children with ADHD were significantly more likely than control children (with Down syndrome) to have a parent affected by alcoholism, other drug abuse, depression, delinquency, learning disabilities, and ADHD. Anticipatory guidance and psychosocial intervention were recommended for families affected. The Editor, Dr DeAngelis, notes that children with a family history of psychiatric disorders should be screened for ADHD.

### **CARBAMAZEPINE: A THERAPY FOR ADHD**

The efficacy of carbamazepine (CBZ) in treatment of ADHD has been determined by meta-analysis of 10 reports from the international literature reviewed at Columbia University, St Luke's-Roosevelt Hospital Center, and New York University Medical Center. In 7 open studies involving a total of 189 patients with features of motor overactivity, impulsivity, and distractibility, 70% showed a marked improvement in target symptoms following treatment with CBZ for periods varying from 1 week to 8 years. Outcome was significantly correlated with duration of treatment; the longer the treatment the better the outcome. In 3 placebo-controlled, double-blind studies, 71% of 53 patients treated with CBZ were benefited whereas only 26% of 52 receiving placebo showed similar improvement in attentiveness and behavior. The difference was significant ( $p=.018$ ). The most frequent side effects were sedation and skin rash occurring in 7.5% and 5.7% of CBZ-treated patients, respectively. (Silva RR et al. Carbamazepine use in children and adolescents with features of attention-deficit hyperactivity disorder: a meta-analysis. J Am Acad Child Adolesc Psychiatry March 1996;35:352-358). (Reprints: Dr Silva, St Luke's/Roosevelt Hospital Center, Division of Child and Adolescent Psychiatry, 411 W114th Street, Suite 3A, New York, NY 10025).

COMMENT. The authors concluded that carbamazepine may be an effective alternate treatment for ADHD. A response rate of 70% in both open and controlled studies is about the equivalent effectiveness of stimulant medication.

From a neurologist's perspective, the obvious questions would relate to the incidence of epilepsy and epileptiform EEG's in these patients selected for treatment with an anticonvulsant medication. Unfortunately, these data were not discussed and were tabulated for the entire sample and not the subsample with ADHD. My own meta-analysis of these data show that abnormal EEGs occurred in 69% of 57 patients in the controlled studies and in 82% of 50