encephalitis in the winter of 1996-97 in Nagoya, Japan, was mainly due to type A. Direct viral involvement of the central nervous system was confirmed by positive PCR results in the cerebrospinal fluid. The clinical profiles of this outbreak were different from most previous epidemics.

Viral encephalitis, especially influenza, during pregnancy and early childhood is a potential and possibly overlooked factor in the cause of the ADHD syndrome (Millichap JG. Encephalitis virus and ADHD. <u>IRSM</u> Letter to the editor, Dec 1997-90:709-710).

## ATTENTION DEFICIT AND LEARNING DISORDERS

## ADHD AND PSYCHOACTIVE SUBSTANCE USE DISORDERS

The association between attention deficit/hyperactivity disorder (ADHD) and psychoactive substance use disorders (PSUD) was studied by familial risk analysis at the Massachusetts General Hospital, Boston, MA. Blind rating of first-degree relatives of children and adolescents referred with ADHD (131 probands, 413 relatives) and healthy controls (106 probands, 323 relatives) showed that the risk for ADHD among relatives of probands with ADHD did not differ by the presence of PSUD in the proband, and ADHD is likely to be causally independent from PSUD. ADHD and drug use disorders may share familial etiological factors. (Milberger S, Faraone SV, Biederman J, Chu MP, Wilens T. Familial risk analysis of the association between attention-deficit/hyperactivity disorder and psychoactive substance use disorders. <a href="https://docs.psychoptarmacology-unit, ACC-725, Massachusetts General Hospital, 15 Parkman St, Boston, MA 02114).">https://docs.psychoptarmacology-unit, ACC-725, Massachusetts General Hospital, 15 Parkman St, Boston, MA 02114).</a>

COMMENT. Familial risk analyses suggest that ADHD is causally independent from substance use disorders. Patients would need to be followed through the age at risk for PSUD to rule out a common familial risk factor for ADHD and PSUD.

Variations in ADHD treatment patterns were studied in 102 special education students sampled at the University of Florida, Gainesville. Nearly three fourths were treated by a primary care provider, and less than one third of these were seen by a mental health specialist. ADHD children receiving only primary care had fewer comorbid conditions, less impairment, less family burden, and less use of multimodal therapies than those seen by a mental health specialist. (Bussing R, Zima BT, Belin TR. Variations in ADHD treatment among special education students. <u>I Am Acad Child Adolesc Psychiatry</u> Sept 1998;37:968-976). Reports of clinical outcomes and comorbidity of ADHD vary with the specialty and type of care provider.

## PERSISTENCE OF DEVELOPMENTAL DYSCALCULIA

The natural history of developmental dyscalculia (DC) in 140 fourth-grade students was studied at the Shaare Zedek Medical Center, Jerusalem, Israel. In phase I of the study, IQ testing; arithmetic, reading, and writing evaluations; and ADHD assessments were conducted over a 3-year period. In phase II, three years later, 123 (88%) were retested and 57 (47%) had persistent DC, with scores in the lowest 5% for their age group (13-14 years). Persistence of DC was correlated with severity of DC and arithmetic problems in siblings of the probands. Socioeconomic status, gender, another learning disability, and educational interventions were not associated with persistence of DC. Attention problems were more severe in children with persistent DC than in those whose scores improved at follow-up.