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# Epilepsy in a large cohort of children diagnosed with attention deficit/hyperactivity disorders (ADHD).

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## PURPOSE:

The knowledge about possible relationships between ADHD and epilepsy is largely based on small samples of ADHD patients and on cohorts with epilepsy. There is insufficient information about the clinical characteristics of epilepsy among children diagnosed with ADHD. The aim of this study was to investigate the prevalence and characteristics of epilepsy in a large, unselected cohort of children with ADHD.

## METHODS:

We conducted a retrospective chart-review of children with ADHD who were evaluated in our clinic between the years 2000 and 2005. We compared age, sex, disorders of psychological development, cognitive level, pharmacological treatment for ADHD, initial response to treatment and ADHD subtype with and without epilepsy. In addition, we compared our data with data from a Norwegian study in a large general pediatric population.

## RESULTS:

Of 607 children with ADHD (age 6-14 years; 82.4% males); 14 (2.3%) had a history of epilepsy, and 13 of these had active epilepsy. This is a higher occurrence than expected in the general pediatric population (0.5%). The majority of our patients had mild (an easily treated) epilepsy and they were more likely to be seizure free (79%) compared to the patients with epilepsy in general pediatric population. The ADHD patients with and without epilepsy did not differ regarding age, gender, disorders of psychological development, IQ level < 85 or ADHD subtype. The patients had been diagnosed with epilepsy on average 1.8 years before the ADHD assessment. All patients with epilepsy were treated with methylphenidate (MPH), and initial response to MPH was achieved in 85.7%.

## CONCLUSION:

The epilepsy diagnosis preceded the ADHD diagnosis, and was found in a significantly higher rate than would be expected in the general pediatric population. The majority of patients had mild epilepsy and ADHD-Combined Inattentive/Hyperactive-Impulsive Subtype. All cases with epilepsy and ADHD were treated with MPH, with initial response achieved in 86%.