Video Training Tool Improves ADHD Symptoms in Teenagers

BY DIANA MAHONEY
New England Bureau

BOSTON — Working memory training can significantly improve symptoms in adolescents receiving medical treatment for attention-deficit/hyperactivity disorder, Dr. Bradley S. Gibson said in a poster presentation at a meeting of the Society for Research in Child Development.

In the first U.S. investigation of the Cogmed Working Memory Training system—a computer-based training program developed at the Karolinska Institute in Stockholm—Dr. Gibson and his colleagues administered the program to 12 adolescents aged 12-14 years who had been previously diagnosed with ADHD. The investigators observed significant decreases in inattention and significant improvements in both the working memory and other executive functions.

The results indicate significant improvement compared to baseline in all three of the cognitive measures,“ Dr. Gibson reported. Additionally, “there were significant decreases in inattentive and hyperactive/impulsive symptoms as rated by parents, and a significant decrease in inattentive symptoms as rated by teachers,” he wrote.

Dr. Gibson pointed to changes in fluid intelligence—the ability to solve problems or adapt to new situations in real time—as a possible mechanism of action. “Working memory improves fluid intelligence, and fluid intelligence appears to reduce ADHD symptoms,” he noted.

In addition to validating the earlier Swedish study, the current findings, while limited by the study’s small size and lack of a placebo control arm, extend the earlier work by “showing that working memory training can enhance in some individuals more than others, and more importantly, by showing that individual differences in working memory enhancement are critical for predicting how much the symptoms of ADHD can be improved,” Dr. Gibson wrote.

Maternal Depression Predicts ADHD in Kids

BY DIANA MAHONEY
New England Bureau

BOSTON — A diagnosis of maternal depression any time before one year before giving birth is a risk factor for attention-deficit/hyperactivity disorder in school-age children, according to a study presented at a meeting of the Society for Research in Child Development.

In addition, the likelihood of an attention-deficit/hyperactivity disorder (ADHD) diagnosis in 2 years and 12% in 1 year only, Ms. Guevremont stated. In addition, the study did not be reported to a physician,” she said. “The prenatal period is an excellent time to screen for depression.”

In addition, the chronicity and timing of maternal depression was significant among children whose mothers were diagnosed during these periods and who had longer durations of depression were most vulnerable to an ADHD diagnosis, the results showed.

“Clearly, the number of years with a depression diagnosis is particularly important, and should be taken into consideration by clinicians caring for both mothers and their children,” Ms. Guevremont said. “The earlier depressed mothers are recognized and treated, the better for the health of both the mother and her children. Intervention at multiple time periods is possible and needed.” For example, in addition to prenatal screening, “another opportunity for screening is when mothers seek physicians for the children’s behavior problems,” she said.

The study is limited by the potential for underreporting of maternal depression and ADHD when they were 7-9 years old, she said.

With respect to chronicity, the investigators considered each time period in which a mother had a diagnosis of depression and counted the total number of years that the mother had the diagnosis outside of that time period, according to Ms. Guevremont. “Approximately 16% of the children had a maternal depression diagnosis in 1 year only, while 8% of the mothers received a diagnosis during the antidepressant treatment. Among the study’s strengths are its large sample size, availability of physicians’ records of depression and ADHD diagnoses, and breadth of data enabling the study of maternal and child development,” she stated. In addition, the study did not look at the effects of the timing and chronicity of maternal depression on ADHD symptoms in school-aged children diagnosed with attention-deficit/hyperactivity disorder and mild obstructive sleep apnea resulting in big improvements in ADHD symptoms, compared with those treated with methylphenidate alone, investigators reported.

“Recognition and surgical treatment of underlying mild sleep-disordered breathing in children with ADHD may prevent unnecessary long-term methylphenidate usage and the potential side effects associated with drug intake,” Dr. Yu-Shu Huang, of Chang Gung Memorial University Hospital, Taipei, Taiwan, and colleagues wrote (Sleeep Med. 2009;10:30).

Dr. Huang and colleagues examined the effect of three treatment options on 66 children with ADHD and mild obstructive sleep apnea confirmed by polysomnography treatment with methylphenidate, under supervision of the child’s pediatrician; systematic adenotonsillectomy, in children with adenotonsillar hypertrophy confirmed by a pediatric otolaryngologist; or a wait-and-see approach, with regular follow-up but no treatment. The study population was recruited from among school children, aged 6-12 years, who were referred to a child psychiatry clinic for behavioral problems suggestive of ADHD. All children received a thorough clinical evaluation, and an ear, nose, and throat specialist performed an otolaryngologic examination. Children were given comprehensive neuropsychological tests, a computerized Training of Variables of Attention (TOV A), to evaluate ADHD. Parents completed questionnaires concerning their child’s behavior (Child Behavior Checklist) and quality of life in children with obstructive sleep disorders (OSA-18).

All 66 children with ADHD had apnea/hypopnea index scores between 1 and 5 (mild apnea) before treatment. Twenty-seven children received methylphenidate, 25 were given an adenotonsillectomy, and 14 had no treatment.

Both the adenotonsillectomy group and the methyphenidate group had far better posttreatment scores on neuropsychological assessments of ADHD than did the no-treatment group or the control group. “The results support the need for early identification and treatment when identified in the presence of an ADHD clinical presentation,” Dr. Huang wrote.

Treating Obstructive Sleep Apnea Surgically May Improve ADHD

Surgical treatment of mild obstructive sleep apnea in school-aged children diagnosed with attention-deficit/hyperactivity disorder and mild obstructive sleep apnea resulted in big improvements in ADHD symptoms, compared with those treated with methylphenidate alone, investigators reported.

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