Augmentative Effects of Working Memory Training on Behavioral Problems and Parental Stress in Medicated Children and Adolescents with Attention-Deficit Hyperactivity Disorder

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Abstract

Objectives:
Executive dysfunctions including working memory deficit have been suggested to be one of the major neuropsychological etiologies of attention-deficit hyperactivity disorder (ADHD). The purpose of this study was to investigate the augmentative effects of working memory training on the behavioral problems, quality of life, and parental stress of medicated children with ADHD.

Methods:
Twenty-five children with ADHD, aged 9 to 19 years, who were being treated with ADHD medication, were included. The participants were trained with a commercially available and computerized working memory program (Cogmed®) for 5 weeks without any alteration of their medication. The Child Behavior Checklist (CBCL), KIDSCREEN-52 quality of life measure, and Parenting Stress Index-Short Form (PSI-SF) were administered before training, and 4 weeks and 7 months after training, respectively.

Results:
After completing the training, the anxiety/depression, social problems, thought problems, attention problems, aggressive behavior, and externalizing problems scores in the CBCL were significantly reduced. The score on the Parent-child dysfunctional interaction in the PSI-SF was also decreased. However, the scores related to the quality of life were not changed. These changes were still observed 7 months after the training.

Conclusion:
Cogmed working memory training can be a promising training option for the additional improvement of behavioral problems and parental stress in medicated children with ADHD.