Multimodal treatment in children and adolescents with attention-deficit/hyperactivity disorder: a 6-month follow-up.

Duric NS, Assmus J, Gundersen D, Duric Golos A, Elgen IB.


Abstract

BACKGROUND:
Different treatment approaches aimed at reducing attention-deficit/hyperactivity disorder (ADHD) core symptoms are available. However, factors such as intolerance, side-effects, lack of efficacy, high new technology costs, and placebo effect have spurred on an increasing interest in alternative or complementary treatment.

AIM:
The aim of this study is to explore the efficacy of multimodal treatment consisting of standard stimulant medication (methylphenidate) and neurofeedback (NF) in combination and to compare it with the single treatment in 6-month follow-up in ADHD children and adolescents.

METHODS:
This randomised controlled trial with 6-month follow-up comprised three treatment arms: multimodal treatment (NF + MED), MED alone, and NF alone. A total of 130 ADHD children/adolescents participated, and 62% completed the study. ADHD core symptoms were recorded pre-/post-treatment, using parents' and teachers' forms taken from Barkley's Defiant Children: A Clinician's Manual for Assessment and Parent Training, and a self-report questionnaire.

RESULTS:
Significant ADHD core symptom improvements were reported 6 months after treatment completion by parents, teachers, and participants in all three groups, with marked improvement in inattention in all groups. However, no significant improvements in hyperactivity or academic performance were reported by teachers or self-reported by children/adolescents, respectively, in the three groups. Changes obtained with a multimodal treatment at 6-month follow-up were comparable to those with single medication treatment, as reported by all participants.

CONCLUSIONS:
Multimodal treatment using combined stimulant medication and NF showed 6-month efficacy in ADHD treatment. More research is needed to explore whether multimodal treatment is suitable for ADHD children and adolescents who showed a poor response to single medication treatment, and for those who want to reduce the use of stimulant medication.