Multimodal Therapy Involving High-Intensity Interval Training Improves the Physical Fitness, Motor Skills, Social Behavior, and Quality of Life of Boys With ADHD: A Randomized Controlled Study.

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Abstract

OBJECTIVE:
To compare the effects of multimodal therapy including supervised high-intensity interval training (HIIT) with those of standard multimodal therapy (TRAD) concerning key variables of physical fitness (peak power and oxygen uptake), motor skills, social behavior, and quality of life in boys with ADHD.

METHOD:
A single-center, two-arm randomized, controlled design was used, with 28 boys (8-13 years of age, IQ = 83-136) being randomly assigned to multimodal HIIT (three sessions/week, 4 × 4-min intervals at 95% of peak heart rate) or TRAD. The Movement Assessment Battery for Children II evaluated motor skills and the German version of the hyperkinetic disorder questionnaire for external evaluation by the guardians (FBB-HKS) or German version of the hyperkinetic disorder questionnaire for self-assessment by the children (SBB-HKS) and the KINDL-R questionnaires mental health and health-related quality of life.

RESULTS:
Both interventions enhanced peak power, and HIIT also reduced submaximal oxygen uptake. HIIT was more effective than TRAD in improving the total score for motor skills (including manual dexterity and ball skills;p< .05), self-esteem, friends, and competence (p< .05) and, moreover, improved subjective ratings of attention.

CONCLUSION:
Three weeks of multimodal therapy including HIIT improved physical fitness, motor skills, certain aspects of quality of life, competence, and attention in boys with ADHD.