1-year follow-up of neurofeedback treatment in adolescents with attention-deficit hyperactivity disorder: randomised controlled trial

Marleen Bink, Ilja L. Bongers, Arne Popma, Tieme W.P. Janssen, Chijs van Nieuwenhuizen

British Journal of Psychiatry Open Mar 2016, 2 (2) 107-115
DOI: 10.1192/bjpo.bp.115.000166
Open Access: http://bjpo.rcpsych.org/content/2/2/107.full

Abstract

Background
Estimates of the effectiveness of neurofeedback as a treatment for attention-deficit hyperactivity disorder (ADHD) are mixed.

Aims
To investigate the long-term additional effects of neurofeedback (NFB) compared with treatment as usual (TAU) for adolescents with ADHD.

Method
Using a multicentre parallel-randomised controlled trial design, 60 adolescents with a DSM-IV-TR diagnosis of ADHD receiving NFB+TAU (n=41) or TAU (n=19) were followed up. Neurofeedback treatment consisted of approximately 37 sessions of theta/sensorimotor rhythm (SMR)-training on the vertex (Cz). Outcome measures included behavioural self-reports and neurocognitive measures. Allocation to the conditions was unmasked.

Results
At 1-year follow-up, inattention as reported by adolescents was decreased (range $\eta^2=0.23–0.36$, $P<0.01$) and performance on neurocognitive tasks was faster (range $\eta^2=0.20–0.67$, $P<0.005$) irrespective of treatment group.

Conclusions
Overall, NFB+TAU was as effective as TAU. Given the absence of robust additional effects of neurofeedback in the current study, results do not support the use of theta/SMR neurofeedback as a treatment for adolescents with ADHD and comorbid disorders in clinical practice.