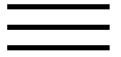


Behavioral interventions in attention-deficit/hyperactivity disorder: a meta-analysis of randomized controlled trials across multiple outcome domains.

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Review

Behavioral Interventions in Attention-Deficit/Hyperactivity
Disorder: A Meta-Analysis of Randomized Controlled Trials Across
Multiple Outcome Domains

David Daley PhD ^a ... European ADHD Guidelines Group

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Objective

Behavioral interventions are recommended as attention-deficit/hyperactivity disorder (ADHD) treatments. However, a recent meta-analysis found no effects on core ADHD symptoms when raters were probably blind to treatment allocation. The present analysis is extended to a broader range of child and parent outcomes.

Method

A systematic search in PubMed, Ovid, Web of Knowledge, ERIC, and CINAHAL databases (up to February 5, 2013) identified published randomized controlled trials

databases (up to February 5, 2019) identified published randomized controlled trials measuring a range of patient and parent outcomes for children and adolescents diagnosed with ADHD (or who met validated cutoffs on ADHD rating scales).

Results

Thirty-two of 2,057 nonduplicate screened records were analyzed. For assessments made by individuals closest to the treatment setting (usually unblinded), there were significant improvements in parenting quality (standardized mean difference [SMD] for positive parenting 0.68; SMD for negative parenting 0.57), parenting self-concept (SMD 0.37), and child ADHD (SMD 0.35), conduct problems (SMD 0.26), social skills (SMD 0.47), and academic performance (SMD 0.28). With probably blinded assessments, significant effects persisted for parenting (SMD for positive parenting 0.63; SMD for negative parenting 0.43) and conduct problems (SMD 0.31).

Conclusion

In contrast to the lack of blinded evidence of ADHD symptom decrease, behavioral interventions have positive effects on a range of other outcomes when used with patients with ADHD. There is blinded evidence that they improve parenting and decrease childhood conduct problems. These effects also may feed through into a more positive parenting self-concept but not improved parent mental well-being.



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Key Words

ADHD; parenting; intervention; conduct

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The European ADHD Guidelines Group is a workgroup of the European Network for Hyperkinetic Disorder (EUNETHYDIS) and consists of the following members and associates co-opted to work on this review (listed in alphabetical order): T. Banaschewski, MD, PhD; J. Buitelaar, MD, PhD; D. Brandeis, PhD; D. Coghill, MD; S. Cortese, MD, PhD; D. Daley, PhD; M. Danckaerts, MD, PhD; R.W. Dittmann, MD, PhD; M. Döpfner, PhD; M. Ferrin, MD, PhD; J. Graham, MD; C. Hollis, MD, PhD; M. Holtmann, MD, PhD; M. Lecendreux, MD; E. Konofal, MD, PhD; P. Santosh, MD; A. Rothenberger, MD; J.A. Sergeant, PhD; E. Simonoff, MD; E.J. Sonuga-Barke, PhD; H.-Ch. Steinhausen, MD, PhD; J. Stevenson, PhD; A. Stringaris, MD, PhD; E. Taylor, MD; M. Thompson, MD; S. van der Oord, PhD; I. Wong, PhD; and A. Zuddas, MD.

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intervention for adolescents with ADHD. She has no financial interests in either of these interventions. She has been a paid consultant for Janssen Pharmaceuticals, for the development and evaluation of the game HealSeeker, which is aimed at training cognitive functions. Dr. Ferrin is a grant recipient for travel expenses from Alicia Koplowitz Foundation, Instituto de Salud Carlos III, and Gobierno de Navarra. Dr. Danckaerts has served on the speaker's bench for Janssen-Cilag, Eli Lilly and Co., Shire, Novartis, and Medice. She has received funding for clinical trials from Eli Lilly and Co. and Shire and educational grants from Shire. She has been involved in the development and dissemination of an ADHD Toolkit for teachers in primary school, distributed to all primary schools in Belgium by the Minister of Education, and has been a consultant for Janssen Pharmaceuticals for the development and evaluation of the game HealSeeker, which is aimed at training cognitive functions. Dr. Doepfner has received research support from, served on the advisory and/or speaker's boards of Janssen-Cilag, Medice, Vifor, Shire, Eli Lilly and Co., and Novartis. He has been involved in the development, evaluation, and dissemination of the German Therapieprogramm für Kinder mit hyperkinetischem und oppositionellem Problemverhalten (THOP) and Präventionsprogramm für Expansives Problemverhalten (PEP), which are behavioral interventions for children with ADHD. He is also head, supervisor, and lecturer at the School of Child Behavior Therapy at the University of Cologne. He has received royalties for treatment manuals (Beltz, Hogrefe Publisher) and as supervisor and lecturer and as consultant of the German Kassenärztliche Bundesvereinigung for the evaluation of behavior therapy. He has received support from Vifor Pharma for an ongoing trial on the effects of omega-3/6 fatty acids and from the German Research Foundation, German Ministry of Education and Research, Shire, and Eli Lilly and Co. for trials on the effects of behavioral interventions for children with ADHD. Dr. Sonuga-Barke has been involved in the development, implementation, and trialing of the New Forest Parenting Programme for preschool children with ADHD and has received royalties from sales of a New Forest Parent Training self-help manual. He has served on the speaker's board for Shire, UCB Pharma, Janssen-Cilag, and Medice. He has served as a consultant for UCB Pharma and Shire. He has received research and conference support from Shire and has served on the advisory boards of Shire, Flynn Pharma, and AstraZeneca. Dr. Cortese reports no biomedical financial interests or potential conflicts of interest.

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