

Meditation-based therapies for attention-deficit/hyperactivity disorder in children, adolescents and adults: a systematic review and meta-analysis

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Abstract

BACKGROUND:

The efficacy of meditation-based therapies for attention deficit/hyperactivity disorder (ADHD) across the lifespan remains uncertain.

OBJECTIVE:

To conduct a systematic review and meta-analysis of randomised controlled trials (RCTs) assessing the efficacy of meditation-based therapies for ADHD core symptoms and associated neuropsychological dysfunctions in children/adolescents or adults with ADHD.

METHODS:

We searched Pubmed, PsycInfo, Embase+Embase Classic, Ovid Medline and Web of Knowledge with no language, date or type of document restriction, up to 5 May 2018. Random-effects model was used. Heterogeneity was assessed with Cochran's Q and I² statistics. Publication (small studies) bias was assessed with funnel plots and the Egger's test. Studies were evaluated with the Cochrane risk of bias (RoB) tool. Analyses were conducted using Comprehensive Meta-Analysis.

FINDINGS:

13 RCTs (seven in children/adolescents, n=270 and six in adults, n=339) were retained. Only one RCT was double-blind. Meditation-based therapies were significantly more efficacious than the control conditions in decreasing the severity of ADHD core symptoms (inattention+hyperactivity/impulsivity: children/adolescents: Hedge's g=-0.44, 95% CI -0.69 to -0.19, I²0%; adults: Hedge's g=-0.66, 95% CI -1.21 to -0.11, I²81.81%). No significant effects were found on neuropsychological measures of inattention and inhibition in children/adolescents. In adults, significant effects were detected on working memory and inhibition, although these results were based on a small number of studies (n=3). 57% and 43% of the studies in children/adolescents were rated at overall unclear and high risk of bias, respectively. In adults, 33% and 67% of the studies were deemed at overall unclear and high risk of bias, respectively. No evidence of publication bias was found.

CONCLUSIONS:

Despite statistically significant effects on ADHD combined core symptoms, due to paucity of RCTs, heterogeneity across studies and lack of studies at low risk of bias, there is insufficient methodologically sound evidence to support meditation-based therapies for ADHD.

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