Resting state vagal tone in attention deficit (hyperactivity) disorder: A meta-analysis.

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Abstract

OBJECTIVES:
To quantify evidence on resting-state vagal activity in patients with attention deficit hyperactivity disorder (ADHD) relative to controls using meta-analysis.

METHODS:
Three electronic databases (PubMed, PsycINFO, CINAHL Plus) were reviewed to identify studies. Studies reporting on any measure of short-term, vagally mediated heart rate variability during resting state in clinically diagnosed ADHD patients as well as non-ADHD healthy controls were eligible for inclusion.

RESULTS:
Eight studies reporting on 587 participants met inclusion criteria. Random-effect meta-analysis revealed no significant main effect comparing individuals with ADHD (n = 317) and healthy controls (n = 270) (Hedges' $g = 0.06$, 95% CI: 0.18-0.29, $Z = 0.48$, $P = 0.63$; $k = 8$). Sub-group analysis showed consistent results among studies in adults ($k = 2$) and children ($k = 6$) with ADHD.

CONCLUSIONS:
Unlike a variety of internalizing psychiatric disorders, ADHD is not associated with altered short-term measures of resting-state vagal tone.