

Young adult outcomes in the follow-up of the multimodal treatment study of attention-deficit/hyperactivity disorder: symptom persistence, source discrepancy, and height suppression

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Abstract

Background

The Multimodal Treatment Study (MTA) began as a 14-month randomised clinical trial of behavioural and pharmacological treatments of 579 children (7–10 years of age) diagnosed with attention-deficit/hyperactivity disorder (ADHD)-combined type. It transitioned into an observational long-term follow-up of 515 cases consented for the continuation and 289 classmates (258 without ADHD) added as a local normative comparison group (LNCG), with assessments 2–16 years after baseline.

Methods

Primary (symptom severity) and secondary (adult height) outcomes in adulthood were specified. Treatment was monitored to age 18, and naturalistic subgroups were formed based on three patterns of long-term use of stimulant medication (Consistent, Inconsistent, and Negligible). For the follow-up, hypothesis-generating analyses were performed on outcomes in early adulthood (at 25 years of age). Planned comparisons were used to estimate ADHD-LNCG differences reflecting the persistence of symptoms and naturalistic subgroup differences reflecting benefit (symptom reduction) and cost (height suppression) associated with extended use of medication.

Results

For ratings of symptom severity, the ADHD-LNCG comparison was statistically significant for the parent/self-report average (0.51 ± 0.04 , $p < .0001$, $d = 1.11$), documenting symptom persistence, and for the parent/self-report difference (0.21 ± 0.04 , $p < .0001$, $d = .60$), documenting source discrepancy, but the comparisons of naturalistic subgroups reflecting medication effects were not significant. For adult height, the ADHD group was 1.29 ± 0.55 cm shorter than the LNCG ($p < .01$, $d = .21$), and the comparisons of the naturalistic subgroups were significant: the treated group with the Consistent or Inconsistent pattern was 2.55 ± 0.73 cm shorter than the subgroup with the Negligible pattern ($p < .0005$, $d = .42$), and within the treated group, the subgroup with the Consistent pattern was 2.36 ± 1.13 cm shorter than the subgroup with the Inconsistent pattern ($p < .04$, $d = .38$).

Conclusions

In the MTA follow-up into adulthood, the ADHD group showed symptom persistence compared to local norms from the LNCG. Within naturalistic subgroups of ADHD cases, extended use of medication was associated with suppression of adult height but not with reduction of symptom severity.