

# Effectiveness of parental training, methylphenidate treatment, and their combination on academic achievements and behavior at school of children with attention-deficit hyperactivity disorder.

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## Abstract

This study aimed to compare the effectiveness of parental training (PT), methylphenidate treatment (MPH), and the combination of PT and MPH treatment (PT/MPH) on school achievements in children with attention-deficit hyperactivity disorder (ADHD). Twenty eight ADHD patients (age:  $10.1 \pm 1.11$  years) were divided into three groups: (a) PT (N=10), (b) PT/MPH (N=8), and (c) MPH alone (N=10). Their grades in academics and conduct, from their school reports before and after treatment (6 months), were coded as achievement scores. No significant differences in baseline academic and conduct scores were found between the groups ( $F=0.033$ , d.f.=2,  $P=0.97$  and  $F=0.024$ , d.f.=2,  $P=0.98$ , respectively). No significant changes before versus after treatment were detected in academic ( $3.83 \pm 0.93$  vs.  $3.85 \pm 0.88$ , paired  $t=0.086$ , d.f.=9,  $P=0.93$ , NS) or conduct ( $3.90 \pm 1.10$  vs.  $4.10 \pm 1.00$ , paired  $t=1.50$ , d.f.=9,  $P=0.17$ , NS) scores in the PT group. The same was true for the PT/MPH group (academic scores:  $3.75 \pm 0.98$  vs.  $4.05 \pm 0.83$ , d.f.=7,  $t=0.927$ ,  $P=0.38$ ; conduct scores:  $3.85 \pm 0.83$  vs.  $4.12 \pm 0.83$ , d.f.=7,  $t=0.79$ ,  $P=0.45$ ). Only the MPH group showed significant improvements in those scores (academic scores:  $3/73 \pm 0.85$  vs.  $4/44 \pm 0.48$ , d.f.=9,  $t=3.33$ ,  $P=0.0088$ ; conduct scores:  $3.80 \pm 0.70$  vs.  $4.60 \pm 0.70$ , d.f.=9,  $t=3.2$ ,  $P=0.011$ ). Methylphenidate alone is superior to either parental training or parental training/methylphenidate in improving academics and conduct at school.