Agility of Adolescents with Attention Deficit Hyperactivity Disorder Compared with Normal Controls: A Preliminary Investigation

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Excerpt

PURPOSE:
Motor delay (MD) has been shown in children with Attention-Deficit/Hyperactivity Disorder (ADHD), such as agility. Agility is involved in everyday movements and is essential to the development of sports skills. Recent imaging studies have shown delayed of the cerebral cortex development of near three years in children with ADHD, which could explain MD. This study aims to evaluate Agility in ADHD male adolescents compare to normal controls, group-matched for age. Moreover, if MD in agility is still observable in ADHD, to determine which group age they can be compared with.

METHODS:
This study included 40 adolescents; 20 with ADHD (ADHD-gr; age 13.8 ± 0.9 yr) and 20 normal controls (Control-gr; age 13.5 ± 1.0 yr). First, both groups were compared using the UQAC-UQAM Gross motor tests battery for agility: Shuttle, Circle, Side-stepping, and Slalom run. Agility scores (sec.) were compared between groups using One-way ANOVA. Then, descriptive comparisons were performed using results of the 50th percentile in 8 yr children (P50-8) and in 12 yr (P50-12) for each agility tests.

RESULTS:
Adolescents with ADHD were significantly slower when compared to control in Shuttle Run (11.2 ± 1.3 vs. 6.6 ± 3.1 sec., p<0.001) and Circle Run (22.3 ± 2.9 vs. 19.5 ± 2.2 sec., p<0.001). Results tending to be slower for Side-stepping, and Slalom Run but did not reach significance. When compared to norms across age group, ADHD-gr scores (sec.) were aligned to P50-8 and slower then P50-12 for all agility tests. However, as expected, the scores (sec.) of Control-gr, were aligned or better to P50-12.

CONCLUSIONS:
In this study, motor delay in agility is still observable in a group of adolescents with ADHD. It seems to have a delay of about 5 years between groups (ADHD vs Control) for all tests measuring agility. Further research is needed to clarify motor delay in adolescents with ADHD for all determinants of gross motor skills (agility, coordination, segmental velocity, balance, and reaction time).