Assessing the effectiveness of ADHD treatment—a collaborative regional approach

Timothy McCrossin1,4, Tracy Macfarlane2,3, Michael Kiernan3

1Department of Paediatrics, Bathurst Base Hospital, 2Department of Psychology, Community Health Centre, Bathurst Base Hospital, 3Department of Psychology, Charles Sturt University, 4University of Western Sydney

Aim: To measure the performance of children recently diagnosed with ADHD, both on and off medication, using a wide range of commonly available neuropsychological tests.

Methods: Children recently diagnosed with ADHD (paediatrician diagnosis according to DSM-IV-TR criteria, APA, 2000) were referred to the Bathurst Child Developmental Unit. The Bathurst Child Developmental Unit has been operational since 2002 as a joint collaboration between the Department of Paediatrics at Bathurst Base Hospital and the School of Psychology at Charles Sturt University (CSU) Bathurst.

Twenty children (17 boys, 3 girls, age 7 to 12) from the Central Tablelands of NSW were recruited between June 2009 and November 2010. All children had commenced medication within the previous 6 months.

Children within the study were administered a range of psychological tests looking at executive functioning, academic performance and behavioural measures both on and off medication. Children completed the test battery twice, in two approximately 90-minute sessions at least one month apart. Testing occurred in a quiet room, free of distraction, at CSU Bathurst. The children were assessed by the same registered psychologist as part of a Masters of Clinical Psychology.

Tests administered included the Connor’s Parent Rating Scale—revised (CPRS-R:L); Wide Range achievement Test—3rd edition (WRAT-3); Connor’s Continuous Performance Test—2nd edition (CPT II); the Trail Making Test (TMT); Test of Everyday Attention in Children (TEA-Ch); Digit Span and Similarities Subtests of the Weschler Intelligence Scale for Children, Fourth edition (WISC-IV); Complex Figure of Rey (CFR); Rey Auditory Verbal Learning Test (RAVLT) and the Cancellation test.

A series of paired sample t-tests were used to examine the impact of medication on participant’s scores. Participants were provided with feedback about the assessment through a report of the results provided by the researcher to the paediatrician.

Results: Despite the small sample size, significant improvement was noted on several measures from the CPT-II (suggesting improvement in attention) and on the Digit Span Subtest of the WISC-IV (suggesting improvement in working memory capacity). Significant decreases in problem behaviours were also observed on the CPRS-R:L. Furthermore, non-statistically significant improvements were noted across a number of other measurements, providing some clinical utility. These results will be presented and discussed using the tables and descriptive statistics that were made available to the treating paediatrician.
Relevance: ADHD is the most commonly diagnosed biological behaviour of childhood, occurring in 6 to 9% of school-aged children. ADHD remains a clinical diagnosis with ongoing controversies regarding over-diagnosis and over-treatment frequently cited in the media. Within a regional setting, assessment of medication efficacy generally requires both formal and informal parent and teacher feedback. This study looks at a novel multidisciplinary approach to assessment of medication efficacy within a regional setting.