



GUEST EDITORIAL

Introduction to Special Issue: ADHD Research in a Canadian Context

We are pleased to introduce this special issue on Attention-Deficit/Hyperactivity Disorder (ADHD). The *Journal of the Canadian Academy of Child and Adolescent Psychiatry* is committed to maintaining a Canadian perspective on child mental health including children diagnosed with the highly complex disorder of ADHD. Recent accounts suggest that diagnostic stability across time, etiological risk factors, multimodal treatments and diagnostic and symptomatic heterogeneity associated with the disorder pose critical challenges for scientists and clinicians alike (Posner, Polanczyk & Sonuga-Barke, 2020). It is becoming increasingly apparent that in order to advance our clinical approaches with emerging evidences, greater collaboration and integration is needed. This special issue represents an important interdisciplinary integration of clinicians (such as, psychiatry, psychology and nursing) working with ADHD affected children and Canadian research collaborators representing different organizations (universities, hospitals and non-profit groups); all in an effort to bring together and bridge practitioners and scientists.

As part of the introduction to this special issue, we would like to describe one such collaboration. The Canadian ADHD Resource Alliance (CADDRA) has officially existed since 2003, with the initial central goal as: “the development and dissemination of made-in-Canada information based on evidence-based or consensus data that had practical applications for the front-line clinician.” (www.caddra.ca/about/history). This vision to support evidence-based practice for ADHD in Canada has been realized in many different conferences, activities and publications. In 2014, CADDRA added another critical layer to their mandate, called ADHD Research Day to invite ADHD researchers and trainees to network across Canada. We have now

collaborated together on six conferences in major cities across Canada. Several disciplines are represented, including family doctors, psychologists, psychiatrists, educators, nurses and other professions that work directly with individuals with ADHD. Most other conferences tend to attract only clinicians/practitioners or researchers, and this collaboration has provided a unique opportunity for cross-talk and knowledge sharing.

In this issue, we introduce a sampling of ADHD research in Canada from our network of ADHD clinicians and researchers. The five articles highlight the need to develop a variety of approaches to harness the multiple mechanisms underlying ADHD to improve the prediction, etiology and treatment of this neurodevelopmental disorder. One of the five studies provides an examination of relevant biomarkers for ADHD. Hai, Duffy, Lemay, Swansburg, Climie and MacMaster used magnetic resonance spectroscopy and found decreased concentrations of neurometabolites (specifically, glutamate, N-Acetyl Aspartate, and choline) within the right prefrontal cortex in children with ADHD, relative to controls. Three studies address important clinical considerations with respect to the treatment option of stimulant medication for children with ADHD. Corkum, Begum, Rusak, Rajda, Shea, MacPherson et al. examine the impact of MPH-*extended release* (ER) medication on sleep in children with ADHD. In a clinically administered crossover medication trial using actigraphy as a dependent measure, they found that MPH-ER use was related to a 30 minute reduction of sleep time due to a 30 minute increase in sleep onset delay in children with ADHD. Boudreau and Mah show that parents with greater knowledge of ADHD, more positive attitude toward ADHD medications, and lower stigma of ADHD, were more likely to initiate or

continue stimulant medication use. One study by Bhat, Sengupta, Grizenko and Joober examined the role of the child's gender in understanding stimulant treatment response by parents and teachers. Their findings suggest that severity of symptoms prior to treatment and treatment response may vary by gender of the child and teacher. Female teachers seemed to rate female children with ADHD as more severe than male children with ADHD and male teachers seemed to rate male children with ADHD as more severe than female children with ADHD. Both male and female teachers reported that male children with ADHD seemed to respond better to stimulant treatment. Finally, Sadeghi and McAuley extend our understanding of computerized working memory training in a modified Cogmed protocol for children and youth with ADHD. They demonstrated that motivational style, either external or intrinsic, may be an important variable to consider in evaluating the effectiveness of cognitive training interventions. These exciting, preliminary findings implicate many important follow up questions that await

further confirmation in subsequent collaborations with clinicians and researchers across Canada and beyond.

We welcome new attendees to ADHD Research Day and the CADDRA conference. Information about these events are posted on www.caddra.ca. Perhaps we will see you in St. John's Newfoundland in 2020!

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References

Posner, J., Polanczyk, G., & Sonuga-Barke, E. (2020). Attention-deficit hyperactivity disorder. *The Lancet*. [https://doi.org/10.1016/S0140-6736\(19\)33004-1](https://doi.org/10.1016/S0140-6736(19)33004-1)