

JOURNAL OF CHILD AND ADOLESCENT PSYCHOPHARMACOLOGY  
Volume 24, Number x, 2014  
© Mary Ann Liebert, Inc.  
P. 1  
DOI: 10.1089/cap.2014.0086

## Letter to the Editor

# Cardiovascular Safety of Stimulants in Children with Attention-Deficit/Hyperactivity Disorder

Alison Poulton, MD,<sup>1</sup> and Anthony Zehetner, MBBS<sup>2</sup>

### To The Editor:

**W**E READ WITH INTEREST THE ARTICLE by Dalsgaard et al. on cardiovascular safety of stimulants in children with attention-deficit/hyperactivity disorder (ADHD) (Dalsgaard et al. 2014). This was a data linkage study relating a recorded diagnosis of ADHD and prescriptions for stimulant medication with “adverse cardiovascular events.” These were defined as an International Statistical Classification of Diseases and Related Health Problems, 10th revision (ICD-10) cardiac diagnosis (I00-I99) relating to an inpatient or outpatient hospital contact. The authors identified 111 such events in 8300 children with ADHD. Among the five who had experienced a “serious cardiovascular event” (cardiac arrest, uncompensated heart disease, and ischemic heart disease), none had been treated with stimulants. The other diagnoses in order of frequency were cardiovascular disease not otherwise specified (40%), arrhythmias (23%), heart disease not otherwise specified (14%), cerebrovascular disease (9%), hypertension (8%), rheumatic fever (2%), and pulmonary heart disease (<1%).

As a database study with little clinical information per individual, these results are very difficult to interpret. Of particular note is the 40% of events designated “cardiovascular disease not otherwise specified.” Are these events of clinical relevance? We also note that 57% had had a dose reduction within the previous 12 months. Given the concern regarding the cardiac safety of stimulant medication, it is vital that the rate of adverse cardiovascular events be accurately estimated, preferably by medical record review (Cooper et al. 2011), and distinguished from the known sympathomimetic effects of stimulant medication (tachycardia, transient hypertension). Useful information from the databases that could

help to identify genuine pathology would be repeated use of the same ICD code. The authors need to provide the number and diagnostic breakdown of those who have scored an ICD-10 cardiac diagnosis on more than one occasion.

### Disclosures

No competing financial interests exist.

### References

- Cooper WO, Habel LA, Sox CM, Chan KA, Arbogast PG, Cheetham TC, Murray KT, Quinn VP, Stein CM, Callahan ST, Fireman BH, Fish FA, Kirshner HS, O’Duffy A, Connell FA, Ray WA: ADHD drugs and serious cardiovascular events in children and young adults. *N Engl J Med* 365:1896–1904, 2011.
- Dalsgaard S, Kvist AP, Leckman JF, Nielsen HS, Simonsen M: Cardiovascular safety of stimulants in children with attention-deficit/hyperactivity disorder: A nationwide prospective cohort study. *J Child Adolesc Psychopharmacol* 24:302–310, 2014.

Address correspondence to:  
*Alison Poulton, MD*  
*Sydney Medical School Nepean*  
*University of Sydney*  
*Nepean Hospital*  
*PO Box 63*  
*Penrith, NSW 2751*  
*Australia*

*E-mail: alison.poulton@sydney.edu.au*

<sup>1</sup>Sydney Medical School Nepean, University of Sydney, Nepean Hospital, Penrith, NSW, Australia.

<sup>2</sup>Sydney Medical School, The Children’s Hospital at Westmead, Westmead NSW, Australia.