

Younger children in the classroom likely overdiagnosed with ADHD

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The youngest children in the classroom are significantly more likely to be diagnosed with attention-deficit/hyperactivity disorder (ADHD) -- and prescribed medication -- than their peers in the same grade, according to a study just published in *CMAJ (Canadian Medical Association Journal)*.

ADHD, which is often treated with [prescription medication](#), is the most commonly diagnosed behavioural disorder in children. Two recent studies have shown a link between the relative age of children and diagnosis of ADHD and prescription of medication. Younger children in the same grade as children who may be almost a year older may appear to be immature compared with their older [peers](#). This apparent lag in maturity has been called the "relative-age effect" and influences both academic and [athletic performance](#).

Researchers from the University of British Columbia were interested to see whether this relative age effect was present in Canada and looked at a large cohort of 937 943 children in British Columbia, a province where the cut-off for entry into [kindergarten](#) or grade one is Dec. 31. The research included children who were between 6 and 12 years at any point during the 11-year study conducted from Dec. 1, 1997 to Nov. 30, 2008.

Researchers found that children were 39% more likely to be diagnosed and 48% more likely to be treated with medication for ADHD if born in December compared to January. Due to the Dec. 31 cut-off birth date for entry into school in British Columbia, children born in December

would typically be almost a year younger than their [classmates](#) born in January.

"The relative age of children is influencing whether they are diagnosed and treated for ADHD," said lead author Richard Morrow, University of British Columbia. "Our study suggests younger, less mature children are inappropriately being labelled and treated. It is important not to expose children to potential harms from unnecessary diagnosis and use of medications."

There are significant health and social ramifications of inappropriate diagnosis of ADHD. Medication to treat ADHD can have negative health effects in children such as sleep disruption, increased risk of cardiovascular events and slower growth rates. As well, younger children who have been labelled ADHD may be treated differently by teachers and parents, which could lead to negative self-perception and social issues.

"This study raises interesting questions for clinicians, teachers and parents," noted coauthor and psychiatrist Jane Garland, University of British Columbia and BC Children's Hospital. "We need to ask ourselves what needs to change. For example, attention to relative age of children for their grade and more emphasis on behaviour outside the school setting might be needed in the process of assessment."

Although the prevalence of ADHD diagnosis and treatment is about three times higher in boys than girls, the effect of relative age applied to both. In fact, girls born in December and typically younger within their grade were 70% more likely to be diagnosed with ADHD than girls born in January.

"The potential harms of overdiagnosis and overprescribing and the lack of an objective test for ADHD strongly suggest caution be taken in

assessing children for this disorder and providing treatment," conclude the authors.

The [ADHD](#) medications included in the study were methylphenidate, dextroamphetamine, mixed amphetamine salts and atomoxetine.

More information: Paper online:

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