Age level vs grade level for the diagnosis of ADHD and neurodevelopmental disorders

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Abstract

A number of worldwide studies have demonstrated that children born later in the school year are more likely to receive an ADHD diagnosis than their same school-year peers. There is, however, variation in findings between countries. We aimed to confirm whether relative age is associated with ADHD diagnosis, with or without comorbidities, and to investigate whether relative age is associated with ADHD type and severity, and if this age relationship is in common with other neurodevelopmental disorder. We used the Lombardy Region’s ADHD registry. Data on children aged 6 years and older from September 1, 2011 to December 31, 2017 were considered. We calculated incidence ratios to assess the inter-relations between relative age within the school year, using age at diagnosis of ADHD or of other psychiatric disorder, year of diagnosis, and total number of children born in Lombardy during the corresponding timeframe. Data on ADHD type, severity of diagnosed disorder clinical global impressions–severity scale, and repetition of a school-grade were also considered. 4081 children, 2856 of whom with ADHD, were identified. We confirmed that the cumulative incidence of ADHD diagnosis was greatest for younger children, in particular for boys, for whom the prevalence is greater. The relative age effect was not accounted for by ADHD comorbid disorders, ADHD of combined type or severity. The relative age effect was also observed for children with other neurodevelopmental disorders (without ADHD), with a similar profile as ADHD children: the incidence ratio was 1.78 (95% CI 1.07–2.97; p < 0.0247) for boys diagnosed before age ten. The findings have a potential implication for diagnostic and therapeutic practice, educational advice, and policies, besides to better plan and organize service systems and appropriately inform parents, children, and citizens.