

Attention deficit hyperactivity disorder late birthdate effect common in both high and low prescribing international jurisdictions: systematic review

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Background

Multiple studies have found that the youngest children in a classroom are at elevated risk of being diagnosed with, or medicated for, ADHD. This systematic review was conducted to investigate whether this late birthdate effect is the norm and whether the strength of effect is related to the absolute risk of being diagnosed/medicated.

Methods

A literature search of the PubMed and ERIC databases and snowball and grey literature searching were conducted.

Results

A total of 19 studies in 13 countries covering over 15.4 million children investigating this relationship were identified. Three other studies exploring related topics were identified. The diversity of methodologies prevented a meta-analysis. Instead a systematic review of the 22 studies was conducted.

A total of 17 of the 19 studies found that the youngest children in a school year were considerably more likely to be diagnosed and/or medicated than their older classmates. Two Danish studies found either a weak or no late birthdate effect. There was no consistent relationship between per-capita diagnosis or medication rates and the strength of the relative age effect, with strong effects reported in most jurisdictions with comparatively low rates.

Conclusions

It is the norm internationally for the youngest children in a classroom to be at increased risk of being medicated for ADHD, even in jurisdictions with relatively low prescribing rates. A lack of a strong effect in Denmark may be accounted for by the common practice of academic 'redshirting', where children judged by parents as immature have a delayed school start. Redshirting may prevent and/or disguise late birthdate effects and further research is warranted. The evidence of strong late birthdate effects in jurisdictions with comparatively low diagnosis/medication rates challenges the notion that low rates indicate sound diagnostic practices.