

Risk of Type 2 Diabetes in Adolescents and Young Adults With Attention-Deficit/Hyperactivity Disorder: A Nationwide Longitudinal Study.

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Abstract

BACKGROUND:

Studies have suggested there is an association between attention-deficit/hyperactivity disorder (ADHD) and type 2 diabetes mellitus (DM)-related risk factors, such as obesity, hypertension, and dyslipidemia. However, the association between ADHD and type 2 DM remains unknown.

METHODS:

Using the Taiwan National Health Insurance Research Database, we enrolled 35,949 adolescents and young adults with ADHD (ICD-9-CM code: 314) and 71,898 (1:2) age- and sex-matched controls from 2002 through 2009 and followed up with them until the end of 2011. Participants who developed type 2 DM during the follow-up period were identified.

RESULTS:

Adolescents (hazard ratio [HR] = 2.83; 95% CI, 1.96-4.09) and young adults (HR = 3.28; 95% CI, 1.41-7.63) with ADHD had a higher risk of developing type 2 DM than did the controls after adjustment for demographic characteristics, use of ADHD medications and atypical antipsychotics, and medical comorbidities. Individuals with ADHD had a shorter mean \pm SD duration between enrollment and onset of type 2 DM (3.17 ± 2.33 vs 4.08 ± 2.11 years, $P = .004$) during the follow-up compared with the controls. Sensitivity analyses after excluding first-year (HR = 2.36; 95% CI, 1.65-3.38) and first-3-year (HR = 1.92; 95% CI, 1.19-3.09) observation periods were consistent. Long-term use of atypical antipsychotics was associated with a higher likelihood of subsequent type 2 DM (HR = 2.82, 95% CI, 1.74-4.58).

DISCUSSION:

Adolescents and young adults with ADHD were more likely than non-ADHD controls to develop type 2 DM in later life. In addition, those with ADHD taking atypical antipsychotics exhibited a higher risk. Although correlation does not equal causation, our findings merit further study about the relationship between ADHD and type 2 DM.