

Prenatal Exposure to Acetaminophen and Risk of ADHD

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Abstract

OBJECTIVES:

To estimate the association between maternal use of acetaminophen during pregnancy and of paternal use before pregnancy with attention-deficit/hyperactivity disorder (ADHD) in offspring while adjusting for familial risk for ADHD and indications of acetaminophen use.

METHODS:

Diagnoses were obtained from the Norwegian Patient Registry for 112 973 offspring from the Norwegian Mother and Child Cohort Study, including 2246 with ADHD. We estimated hazard ratios (HRs) for an ADHD diagnosis by using Cox proportional hazard models.

RESULTS:

After adjusting for maternal use of acetaminophen before pregnancy, familial risk for ADHD, and indications of acetaminophen use, we observed a modest association between any prenatal maternal use of acetaminophen in 1 (HR = 1.07; 95% confidence interval [CI] 0.96–1.19), 2 (HR = 1.22; 95% CI 1.07–1.38), and 3 trimesters (HR = 1.27; 95% CI 0.99–1.63). The HR for more than 29 days of maternal acetaminophen use was 2.20 (95% CI 1.50–3.24). Use for <8 days was negatively associated with ADHD (HR = 0.90; 95% CI 0.81–1.00). Acetaminophen use for fever and infections for 22 to 28 days was associated with ADHD (HR = 6.15; 95% CI 1.71–22.05). Paternal and maternal use of acetaminophen were similarly associated with ADHD.

CONCLUSIONS:

Short-term maternal use of acetaminophen during pregnancy was negatively associated with ADHD in offspring. Long-term maternal use of acetaminophen during pregnancy was substantially associated with ADHD even after adjusting for indications of use, familial risk of ADHD, and other potential confounders.