Children's Hospital of Philadelphia
PolicyLab

Risk for Incident Diabetes Mellitus Following Initiation of Second-Generation Antipsychotics Among Medicaid-Enrolled Youths

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IMPORTANCE: Second-generation antipsychotics (SGAs) have increasingly been prescribed to Medicaid-enrolled children, either singly or in a medication combination. Although metabolic adverse effects have been linked to SGA use in youths, estimating the risk for type 2 diabetes mellitus, a rarer outcome, has been challenging.

OBJECTIVE: To determine whether SGA initiation was associated with an increased risk for incident type 2 diabetes mellitus. Secondary analyses examined the risk associated with multiple-drug regimens, including stimulants and antidepressants, as well as individual SGAs.

DESIGN, SETTING, AND PARTICIPANTS: Retrospective national cohort study of Medicaid-enrolled youths between January 2003 and December 2007. In this observational study using national Medicaid Analytic eXtract data files, initiators and noninitiators of SGAs were identified in each month. Included in this study were US youths aged 10 to 18 years with a mental health diagnosis and enrolled in a Medicaid fee-for-service arrangement during the study. Those with chronic steroid exposure, a diagnosis of diabetes mellitus, or SGA use during a 1-year look-back period were ineligible. The mean follow-up time for all participants was 17.2 months. Youths were followed up until diagnosis of diabetes mellitus or end of follow-up owing to censoring caused by the transition into a Medicaid managed care arrangement or Medicaid ineligibility (the end of available data). Propensity weights were developed to balance observed demographic and clinical characteristics between exposure groups. Discrete failure time models were fitted using weighted logistic regression to estimate the risk for incident diabetes mellitus between initiators and noninitiators.

EXPOSURE: A filled SGA prescription.

MAIN OUTCOMES AND MEASURES: Incident type 2 diabetes mellitus identified through visit and pharmacy claims during the observation period.

RESULTS: Among 107 551 SGA initiators and 1 221 434 noninitiators, the risk for incident diabetes mellitus was increased among initiators (odds ratio [OR], 1.51; 95%CI, 1.35-1.69; P < .001). Compared with youths initiating only SGAs, the risk was higher among SGA initiators who used antidepressants concomitantly at the time of SGA initiation (OR, 1.54; 95%CI, 1.17-2.03; P = .002) but was not significantly different for SGA initiators who were concomitantly using stimulants. As compared with a reference group of risperidone initiators, the risk was higher among those initiating ziprasidone (OR, 1.61; 95%CI, 0.99-2.64; P = .06) and aripiprazole (OR, 1.58; 95%CI, 1.21-2.07; P = .001) but not quetiapine fumarate or olanzapine.

CONCLUSIONS AND RELEVANCE: The risk for incident type 2 diabetes mellitus was increased among youths

initiating SGAs and was highest in those concomitantly using antidepressants. Compared with risperidone, newer antipsychotics were not associated with decreased risk.

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