Sudden Infant Death Syndrome, Attention-Deficit/Hyperactivity Disorder and Vaccines: Population-Level Analyses, 2003–2013
Jana Shaw MD, MPH, FPIDS1; Y. Tony Yang, ScD, LLM, MPH2; 1Pediatrics, SUNY Upstate Medical University, Syracuse, New York; 2George Mason University, Fairfax, Virginia

Session: 79. Vaccines: Safety and Adverse Events
Thursday, October 27, 2016: 12:30 PM

Background. Majority of infants initiate primary vaccination series when they are between 2 to 4 months old. This age range coincides with the peak time for sudden infant death syndrome (SIDS), the cause of which remains unknown. The timing of the 2 month and 4 month vaccinations and SIDS has led parents question whether they might be related. Also, there have been persistent concerns about the link between attention-deficit/hyperactivity disorder (ADHD) and vaccines. This study evaluated whether there was a statistically significant relationship between vaccination uptake and SIDS, and ADHD.

Methods. State-specific vaccination coverage data for 2003–2013 from the National Immunization Survey (NIS) at the 13-month milestone were used for the following vaccine doses: (1) 3 + DTaP, (2) 2 + Polio, (3) 1 + MMR, (4) 3 + Hib, and (5) 3 + HepB. Annual infant mortality rates due to SIDS were obtained from the National Vital Statistics Reports for 2007 to 2013 years. State-level ADHD prevalence for 2003, 2007, and 2011 years were obtained from the National Survey of Children’s Health. The analysis employed multivariable regression and mixed effects models using STATA statistical software. The analyses were adjusted to control for variation due to socio-demographic factors.

Results. Mean incidences for SIDS and ADHD were 39.9 per 100,000 live births and 8.9 per 100 children, respectively. While SIDS rates decreased over time from 55.6 to 38.7 per 100,000 live births (p = 0.4); ADHD diagnoses increased from 7.8% to 11.0% (p = 0.3). Mean coverage for each of the five vaccines varied significantly from 47.7% to 95.1% (p < 0.01). State-level vaccination coverage was not found to be associated with SIDS or ADHD rates for each of the vaccines evaluated (p > 0.2).

Conclusion. Vaccination coverage did not influence SIDS nor ADHD rates. Concerns about the links between SIDS, ADHD and vaccines were unfounded by our population level analysis. Our findings may help pediatricians facing vaccine hesitant parents by providing a current and evidence based vaccine safety information.

Disclosures. All authors: No reported disclosures.